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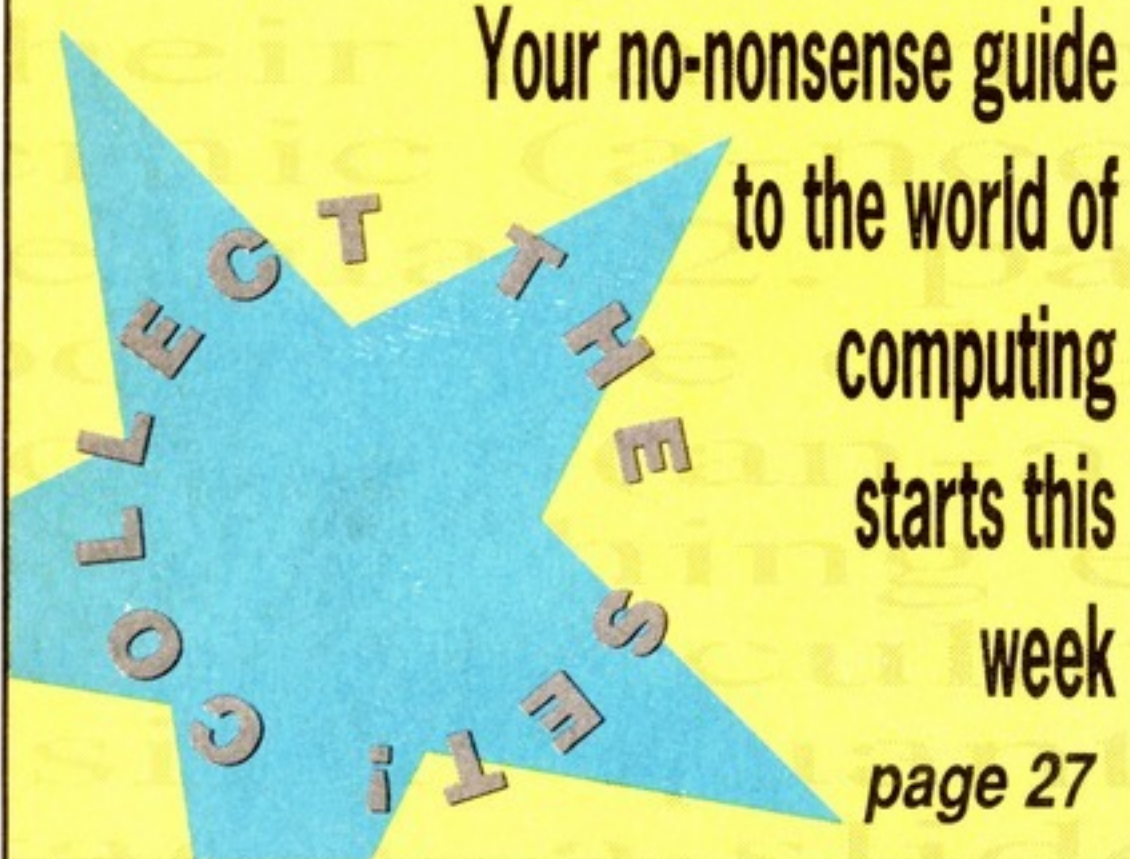
NEW COMPUTER EXPRESS

First news, first reviews - every week



YAZZ: The only way is up for Atari? page 2

A > Z



Your no-nonsense guide to the world of computing starts this week page 27

THE REAL THING?



Real Ghostbusters - true successor to world's biggest selling game? page 48

MONSTER CHIP IS HERE!



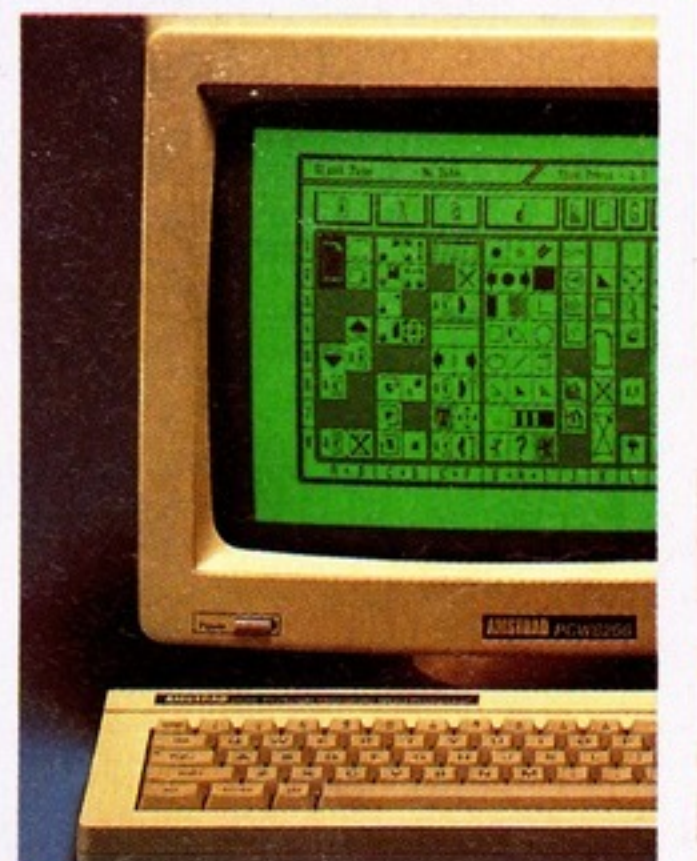
Mainframe power at your fingertips page 2

PACK-A-MAC

Transform your ST into an Apple Mac page 23

THE WRITE STUFF

Amstrad's PCW phenomenon page 20



Sections for YOUR machine

PC • C64

Amiga

Atari ST

Spectrum

CPC • PCW

QL • BBC

MSX

pages 33-41

MOULD THE FRONT PAGE

EXCLUSIVE!!

How computers make the news at The Guardian page 15

Comment 4 • Charts 5 • Letters 11 • Columns 33 • Jobs 30 • Tips 43 • Classifieds 46 • Entertainment 47 • Vouchers 51

IT'S A MONSTER

Ground breaking chip unveiled by Intel

The computer world was last week buzzing with expectancy after the launch of a new "monster chip" by Intel.

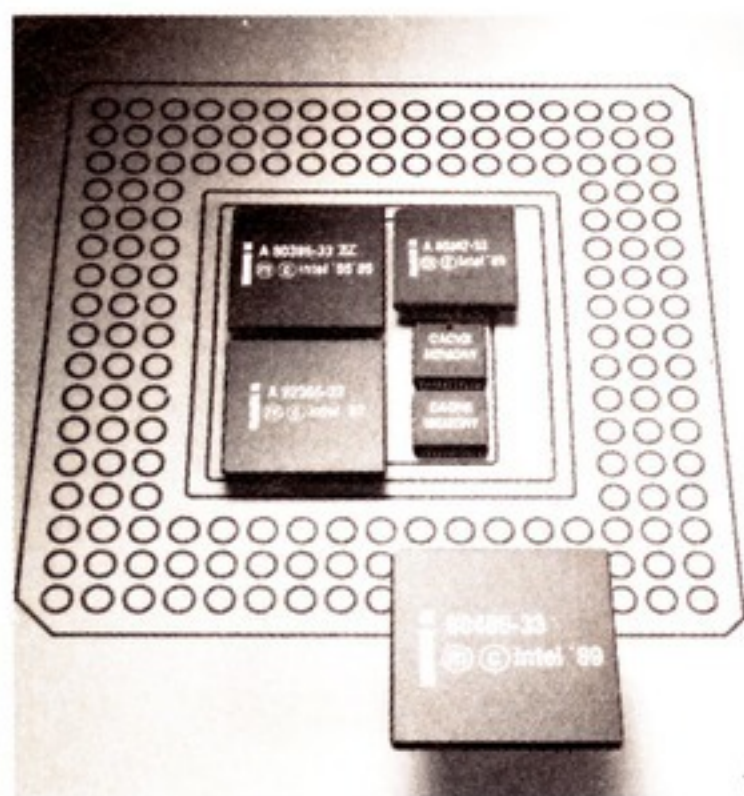
The Intel 486 chip was unveiled in Chicago and it will be able to give normal PCs the power of expensive mini computers. With nearly four times the power of top of the range Intel 386 chip it is little wonder that the announcement was greeted warmly by dozens of leading hardware manufacturers.

The works

The new 486 is basically a tight bundle of high performance PC components.

Intel has squeezed the basic fast chip as well as a maths processor which is normally separate for the chip itself. It also incorporates memory management unit and cache as well as employing RISC-style architecture.

Intel has spent many millions of pounds automating its manufacturing using sophisticated computer engineering. Defects normally associated with chip manufacturing have thus been eradicated leaving room to pack more in.



● Squeezing in the power

Incredibly, the 486 can give desk top computers 50 times the power of the original Intel-based PCs of the early 1980s. It is being seen an enormous step forward in computer technology.

In the near future users will have at their disposal mainframe-like performance and PC compatibility. The announcement was followed by dozens of hardware manufacturers queuing up to make their approval known. Heading these were IBM, Compaq, Sun, Dell, Olivetti, Phillips, Wang and Unisys.

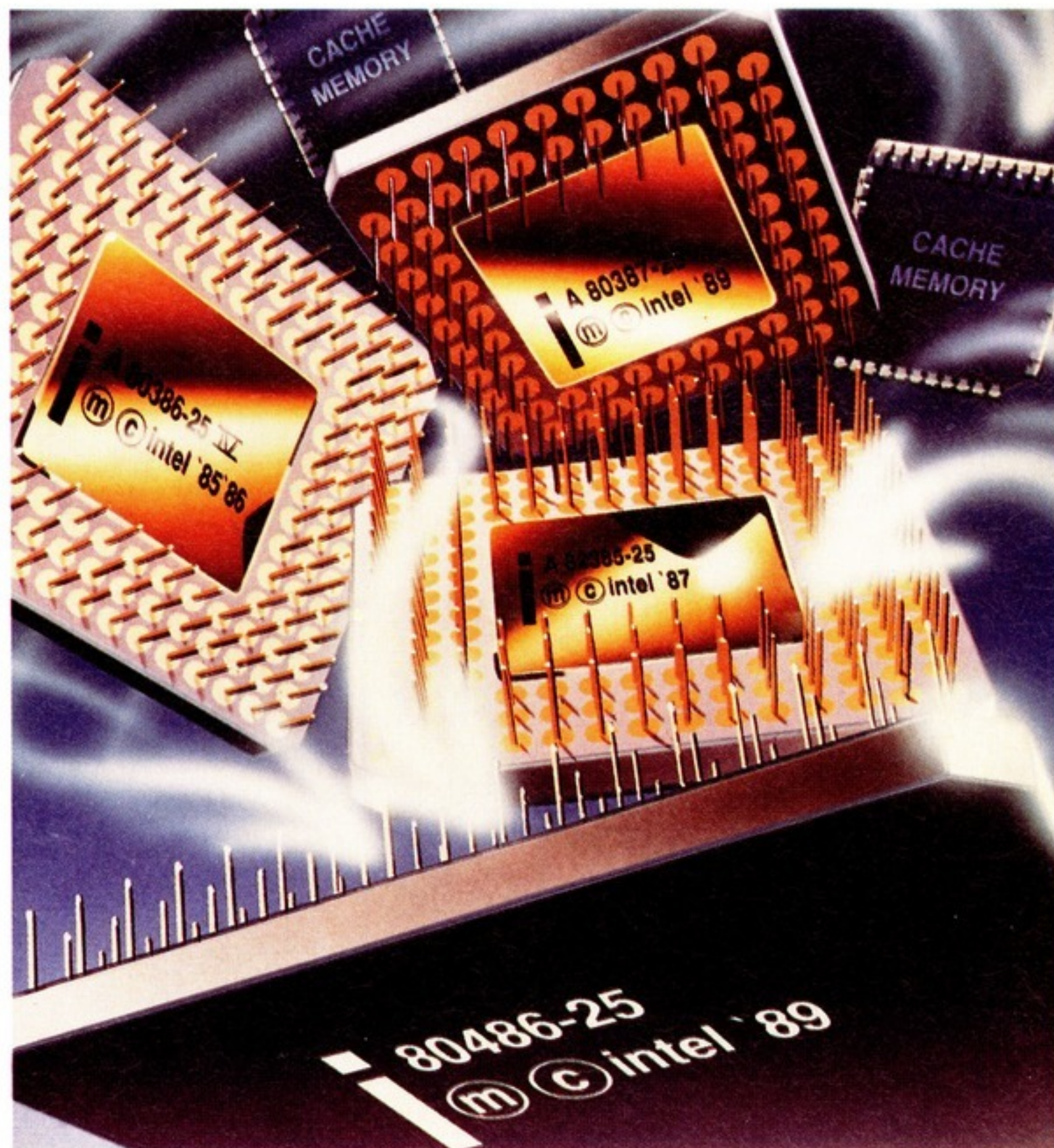
By chip standards the 486 is large. Only about 70 of them can be fitted on to a normal six inch wafer. However, just one of the chips is as powerful as three of today's semiconductors. It boasts a speed of up to 20 Million Instructions per Second (MIPS).

"This is a monster," said Intel's chairman Gordon Moore. "Five years ago it was inconceivable that we could make such a chip." He explained that enormous investment in purpose-built systems had enabled the development.

It's likely that the first PCs using the chip will arrive before the end of this year.

Most importantly, PC owners have been given a clear upgrade path well into the next decade. Some are predicting that 386 PCs will come down in price so quickly that the 286 PC will be rendered obsolete within two years.

It has even been suggested that by 1992 ten per cent of all PCs sold will be 486-based and will cost less than \$8,000. By the middle of the next decade home PC owners could be looking at mini computer power in their living rooms.



● Intel's 486: A chip for the 1990s

Scanner in the works

DTP on the PC is more popular than ever, with a wide range of relevant software and peripherals available. Now Logitech has launched a high resolution scanner for the machine. ScanMan has an adjustable resolution of up to 400 Dots Per Inch (DPI) and

costs £199. Logitech points out that since most PC owners have printers which can only cope with 300 DPI this is the best resolution they could hope for.

ScanMan will run on PS/2 machines as well. Logitech reckons it's as good as full A4 scanners.



● Logitech line up: Now ScanMan

Atari and all that Yazz

Atari is pondering tying up a sponsorship deal with record company Big Life, which produces the likes of Yazz, Cold Cut and S'Express.

According to Atari insiders, the high flying popster approached the hardware manufacturer with a view to some sort of an agreement. It would appear that Big Life is keen to set up a state of the art music studio utilising high tech equipment based on a string of Atari STs. Atari would also help in the production of a promo video.

In return Atari would get "endorsement through association". Big Life's stable of pop stars and its high tech approach to music has not been missed by Atari.

Given the Atari ST's capabilities and popularity in the music world, such a deal would appear to be a good idea. Atari is still thinking it all through.

A Big Life spokesman told Express that Atari had been approached. He said though that little progress had been made.



● STand up...

Telecomsoft sale: It's official

As exclusively predicted in *Express* last week MicroProse has scooped up the three Telecomsoft labels Rainbird, Firebird and Silverbird.

The British labels are now the property of the growing American company. Its line up of affiliate companies and labels make it increasingly difficult to describe the firm as a military simulation specialist.

MicroProse spent something in the region of £2 million on the deal. However, Magnetic Scrolls – which was responsible for some of Telecom's best-known games including *The Pawn*, *Guild of Thieves* and *Fish* – will not automatically be transferred to MicroProse. Scrolls' Ken Gordon point blank refused to comment on the matter.

Pick a pocket encyclopaedia

A pocket sized CD-ROM PC has been launched by Oxford firm Attica Cybernetics.

The machine can run normal PC software by adding a keyboard but its most interesting facet is pocket sized CD capabilities. In effect, you could be walking around with an encyclopaedia in your pocket. However, Dynabook costs a hefty £3,800 restricting itself to specialised (or wealthy) users.

OPUS PLANS PC CHEAPO

An IBM-compatible PC with a 20 Mb hard disk is to be launched by Opus – at less than £800.

Next month the British manufacturer will be unveiling the PC3/20 with an impressive price tag of £799. As yet no tech specs are known although it is understood the machine will look like its sister, the PC4.

Buyers wishing to buy a PC with a hard disk are usually looking at spending at least £1,000.

Opus reckons first time buyers will flock to the new machine. "Journalists may not like it because we haven't exactly re-invented the wheel. It's no 386 but it'll sell more than any of them," boasted a spokesman.

"I think we've pulled off a coup by

offering a hard disk machine at such a low price. First time buyers are becoming increasingly aware of the usefulness of a hard disk. There is definitely a place for a low cost XT like this."

Opus lowest priced machine with a hard disk is the PCIII with 30Mg – that costs £1,000. The PC3/20 should be launched at next month's *PC User Show*.

A console in the hand

Nintendo is developing a handheld version of its extraordinarily successful games console.

The GameBoy is currently being put together in Japan but is said to be some way off completion – a US launch this year has been all but ruled out. The handheld will be fully Nintendo compatible. A UK launch is almost certain in the long term.

The Epyx handheld (*Express* 12) will be launched at the CES Show in June.



• Opus PC line up: 20Mb baby soon

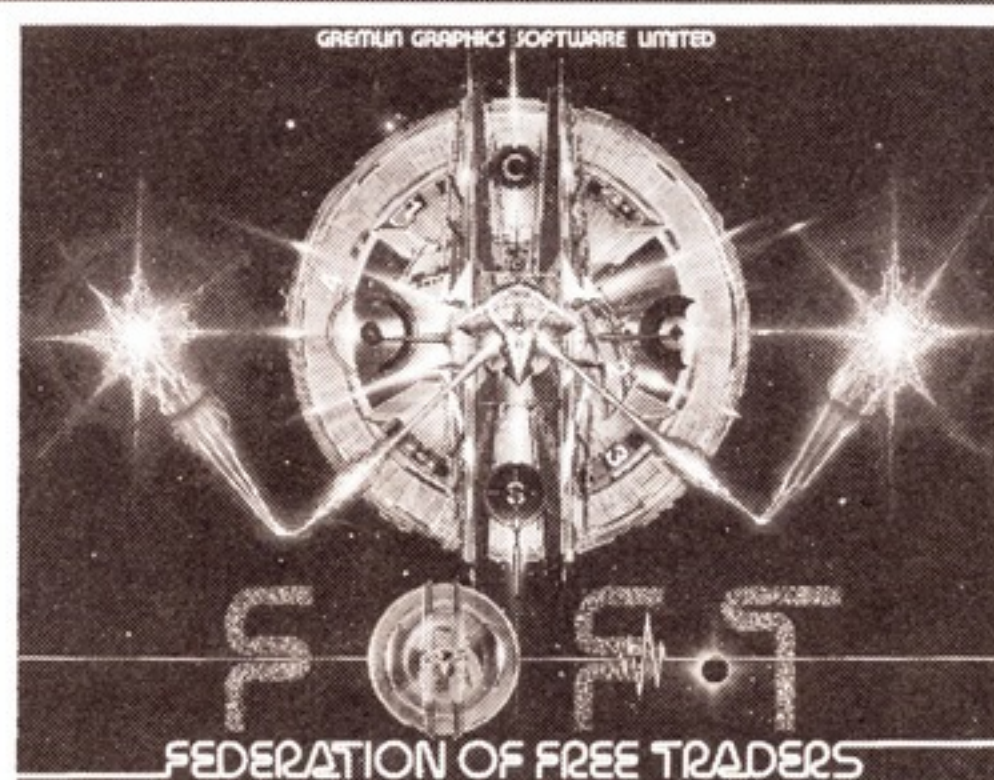
FOFT REMIXED

Following a cold response from much of the ST reviewing fraternity Gremlin has promised a "remix" version of *Federation of Free Traders*. The firm is also putting out assurances that the forthcoming Amiga version of FOFT will be polished.

The *Elite*-type game has experienced a string of problems from bugs, admissions of a sub standard manual and some poor reviews. However, ST owners will soon be able to send off for a tweaked version plus new manual

by popping their original FOFT disk in the post along with £1.

"Everything is there in the ST version," commented Gremlin's boss Ian Stewart. "But we just got a little close to the game during development. We're actively taking note of the critics while developing the Amiga version." More details over the next few weeks.



• FOFT: Polished version soon

CONTENTS

FEATURES

DTP AT THE GUARDIAN 15

Harnessing mainframe power to produce one of the country's top dailys

HISTORY OF THE PCW 20

The story of the micro that changed the world...

ST MAC EMULATOR 23

Turn your ST into a Macintosh with Hisoft's Spectre 128

A-Z 27

Starting this week, the *Express* guide to the world of computing

REGULARS

EXPRESS COMMENT 4

CHARTS 5

LETTERS 11

JOBS 40

TECH TIPS 43

CLASSIFIEDS 46

GAMES 47-48

Abrams Battle Tank, Kick Off, Renegade III, Real Ghostbusters, Police Quest 2, Steve Davis World Snooker

GAME PREVIEWS 50

Skate or Die, Crime Town Depths, Powerdrome, Microprose Soccer, Hyperforce, Xenon II

VOUCHERS 51

BACK PAGE 54

YOUR FORMAT

ST 33

PC 34

Amiga 35

Spectrum 36

Commodore 64 37

PCW, QL 38

BBC, MSX 39

CPC 41

NEW COMPUTER EXPRESS
COMMENT

Power to... who?

The new Intel 486 chips are promised to give us 'mainframe power' in our home micros. By the beginning of the next decade, our computers will be fifty times faster than the machines we were using at the start of the eighties. All great stuff for the power-hungry spec-conscious technojunkie to look forward to. What about the rest of us computer owners?

Well, 486 machines won't be available for a few years. When they are though, all the old favourites like WordStar, Lotus, WordPerfect et alia will no doubt be available in special 486 versions. But how different will they be?

A few extra bells and whistles perhaps, but you can bet that the standard packages won't be changed that much. The user base is so large now that major departures are out of the question. Perhaps zappy new window-based programs will be out to replace them - but perhaps not. A lot of time and money has been invested in training people to use the current standard packages, and changing to new systems means expensive retraining.

The onus is on program developers to produce programs that use the extra power - not to make dBase run a millisecond faster, but to construct friendly interfaces and make programs more graphics based and easier to use. Only then will we be able to move on from old standards to more intuitive methods of computing.

You don't upgrade your car because you want to go faster, you do it because you want something bigger, or more comfortable, or more reliable. After all, even a Skoda can break the limit; the limits of useful speed have been reached already. How soon will it be before we can say the same for computers? Perhaps sooner than you think.

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SPEEDY ARCHIES UNVEILED

Busy Acorn has unveiled new additions to its Archimedes range offering a claimed ten per cent more speed.

And the firm has confirmed the appearance of new machines in the summer although the low cost Archie is still not being discussed (*Express* 20).

The three new models are affiliated to the Archimedes 400 range. They all boast standard 32-bit RISC technology - claimed to be capable of four million instructions per second (MIPS). The machines are said to be ten per cent faster than

their predecessors - achieved by increasing the memory cycle efficiency.

The new Archimedes 400 weighs in at £1,199 with the bigger machines costing £1,699 (410) and £2,449 (440). Whilst on the expensive side Acorn is once again pointing out the advantages in speed and memory for price which the range has over PCs.

"We're providing users with an unmatched combination of high performance RISC technology, hardware and software flexibility and the ability to upgrade the system as and when required," said Acorn's Terry Shurwood.

Meanwhile, Acorn has turned



• New Archies' and tasty profits from Acorn

around a financial loss in 1987 of £2.4 million into a profit for '88 of £1.6 million. Acorn has put this down to its continued domination of the education sector as well as expansion away from it.

Vessel do nicely

Computer boffin John Sweeney's fascination in King Arthur's legend has won him a £5,000 silver goblet.

Software house Mandarin had offered the Holy Grail replica as the prize in a nationwide treasure hunt based on the adventure game *Lancelot*. Sweeney, a puzzle nut, worked his way through all the clues on the game finally arriving at Cerne Abbas Giant etched in chalk in the Dorset hills.

He cracked the clues using his Atari ST, his knowledge of Arthurian legend and his experience with adventures. "When I saw them combined in this quest I couldn't resist it," he said. "It was heavy going at the end because the clues were so obscure."

Anyone who got bogged down can obtain the answers from Mandarin at Europa House, Adlington Park, Adlington, Macclesfield, SZ10 4NP.



• Sweeney: Cup winner

MACHINE SPECIFICS

Those 16-bit chums Atari and Commodore have been spouting about how many machines they've sold again.

Commodore has at last passed the one million mark with about 700,000 of those here in Europe. Those in the biz are hoping for a slap up meal and a few glasses of champers by way of celebration and reward.



• The 16-bit numbers game

Not to be outdone, Atari (somewhat scornfully) points out that it passed the million mark early last year and claims to be somewhere around the 1.6 million mark with about 70 per cent in Europe.

Nicking chips

A violent string of chip thefts has hit the home of the semiconductor - Silicon Valley.

Armed chip thieves have inflicted five robberies on Orange County in California over the last six months. Last month four men with machine guns stormed into ALR's plant but left empty handed. However, other gun toting gangs have made off with chips worth more than £50,000.

This is your PC calling...

And now, the ultimate in telephone answering systems. Sefer - a French electronics company - has just announced an add-on for the PC which will allow it to answer the telephone with up to 30 minutes of digitised speech.

The add-on - known as the Vocatel - comes in the

form of a pair of printed circuit boards which plug into a standard PC. Once installed, Vocatel answers the telephone and offers callers the choice of 100 words in 2 and 3 word phrases.

By choosing a suitable phrase and repeating it back to Vocatel, the caller

can access more detailed information held in the form of a 'tree structure' spread over 12Mb on hard disk

Sefer is hoping that despite the price of £2000, the Vocatel will attract small business users who need the power of a human operator but the simplicity of a computer system.

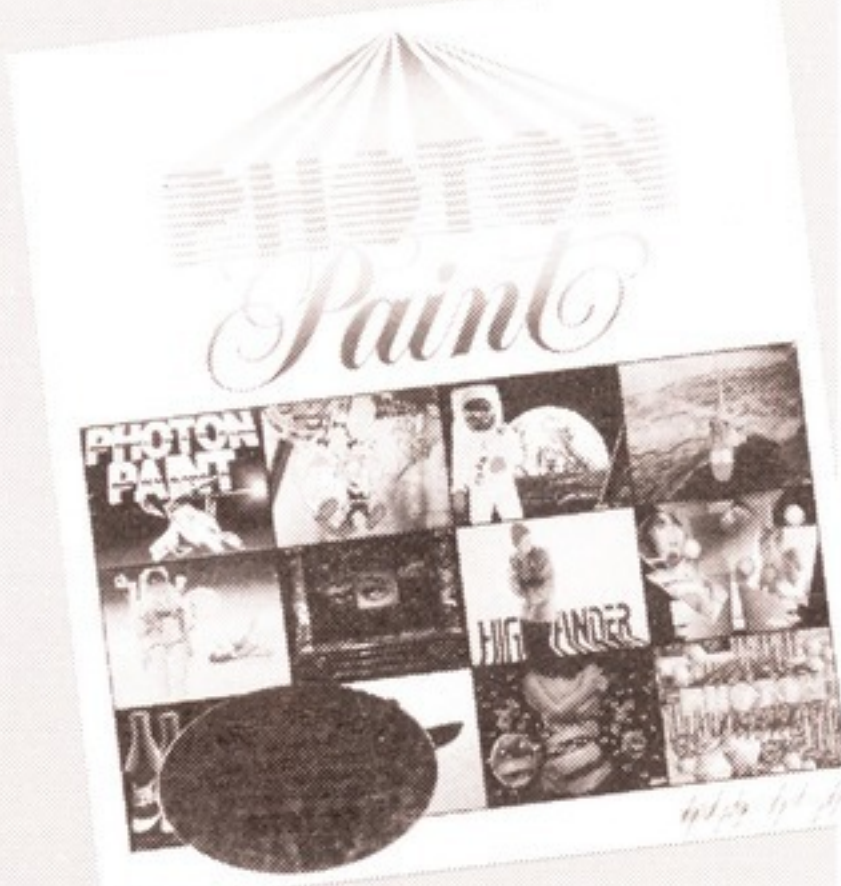
Photon Paint II: "Trouble" brewing

The future of *Photon Paint II* is in the balance this week as Microllusions decides its future plans for the UK market.

The highly regarded American paint package is sold here through Activision. However, inside sources at Microllusions suggest that the firm is looking to change its approach to the UK. Whether this means a complete break with Activision does not appear likely.

A Microllusions spokesperson confirmed that a decision would be made this week but would not comment further. Activision's UK boss Rod Cousens told *Express*: "I understand there may be some trouble but we have a twelve month contract with Microllusions which we will be enforcing if that becomes necessary."

Photon Paint II is due out on the Amiga in the near future. The original *Photon Paint* was, at one point, bundled with the Amiga itself.



• Photon Paint: Sequel future murky

CHECKOUT THE LATEST COMPUTER

Underpaid part timers could be replaced by computers at your local supermarket check-out till.

US firm CheckRobot is talking to a number of British supermarkets with a view to installing its computer cashier. Customers would simply place their groceries on a conveyor belt which would pass over a bar code reader.

A voice synthesizer reads out the products and their prices. When the customer has paid the bill he can have the groceries at the other end. If any attempt is made to put something on the conveyor belt beyond the bar reader point the computer knows.

It memorises the shape and weight of each item. If something were to arrive which was not in immediate memory the computer screams blue murder.

CheckRobot has already been tried out with some success in Florida and New Jersey. Each one will cost about £16,500 but turnaround speed would be faster.

MARTECH CLOSED DOWN

Ancient games label Martech has been closed down while its boss concentrates on other projects.

Martech has been in existence since the heady days of the early eighties. It is part of the Software Communications group which also acts as an umbrella for development



• Martin: Veteran

houses Emerald and Intelligent Design.

Boss David Martin - a one time teacher - wants to spend more time concentrating on development rather than "sitting behind a desk" running a publishing operation. "He gets very enthusiastic about developing games and is spending a lot of time going over to Ireland (where Emerald is based)," said a spokesperson. "He just gets more chuffed watching games in development."

Nevertheless, Martin may be launching a new label in the summer concentrating on the 16-bit sector. Martech itself is best known for *Armageddon Man*, *Nigel Mansell* and *Phantom Fighter*.

Martin is a familiar figure in industry circles. His last dealings with Martech though involved legal

ructions with *Commodore User* over a review of *Phantom Fighter* (*Express* passim).

Brits picked for Soviet micro deal

Soviet authorities have chosen ICL to handle the opening of a PC factory in Leningrad.

The UK giant will build and run the venture in conjunction with various Russian governmental departments. IBM compatible PCs will be sent over from the UK in kit form which will then be assembled by Soviet workers.

ICL will be the first Western manufacturer to run a computer production line in the Soviet Union. IBM had been pitching for the contract but was pipped at the post.

COMPAQ COMPACT COMPUTER

High end PC manufacturer Compaq has introduced a relatively low cost 286 model aimed specifically at the small business user.

The Compaq DeskPro 286e runs a 12 MHz system, has one Mb of memory and five expansion ports. Compaq is keen to dwell on the machine's small footprint and

"sleek" design.

The DeskPro, says Compaq, is designed to meet basic computing needs with speed. The entry level price is £1,696. "This computer meets the need for a smaller, high value PC with the variety of integrated features," said Compaq's Joe McNally.



• Compaq 286e: Meeting needs

TOP 20 Full Price GAMES

- 1 Robocop** OCEAN
Spectrum, C64, CPC, ST, Amiga, MSX
- 2 Operation Wolf** OCEAN
Spectrum, C64, CPC, ST, Amiga
- 3 Dragon Ninja** OCEAN
Spectrum, C64, CPC
- 4 Emlyn Hughes** AUDIOGENIC
Spectrum, C64
- 5 Middle Earth** MELBOURNE HOUSE
Spec, C64, CPC, ST, Amiga, PC
- 6 WEC Le Mans** IMAGINE
Spectrum, C64, CPC, ST, Amiga
- 7 Afterburner** ACTIVISION
Spectrum, C64, CPC, ST, Amiga
- 8 Run the Gauntlet** OCEAN
Spectrum, C64, CPC, ST, Amiga
- 9 Football Manager 2** ADDICTIVE
Spectrum, C64, CPC, ST, Amiga, PC
- 10 Pacland** GRANDSLAM
Spectrum, C64, CPC, ST, Amiga, MSX
- 11 Arcade Muscle** US GOLD
Spectrum, C64, CPC
- 12 Fun School 2** DATABASE/MANDARIN
Spectrum, C64, CPC, ST, Amiga, BBC
- 13 In Crowd** OCEAN
Spec, C64, CPC
- 14 Thunder Blade** US GOLD
Spectrum, C64, CPC, ST, Amiga
- 15 Football Man. 2 Exp** ADDICTIVE
Spectrum, C64, CPC, ST, Amiga, PC
- 16 Double Dragon** MELBOURNE HOUSE
Spectrum, C64, ST, Amiga, PC
- 17 Renegade 3** IMAGINE
Spectrum, C64, CPC
- 18 Real Ghostbusters** ACTIVISION
Spec, C64, CPC, ST, Amiga
- 19 Batman** OCEAN
Spectrum, C64, CPC, ST, Amiga
- 20 Lombard RAC** DATABASE/MANDARIN
ST, Amiga, PC

TOP TEN Budget GAMES

- 1 Treasure Island** CODE MASTERS
Spec, CPC
- 2 Turbo Esprit** ENCORE
Spec, C64, CPC
- 3 Ghostbusters** MASTERTRONIC
Spectrum, C64, CPC, Atari 8-bit
- 4 Twin Turbo V8** CODE MASTERS
Spec, CPC
- 5 ACE 2** CASCADE
Spec, C64, CPC
- 6 Joe Blade 2** PLAYERS
Spectrum, C64, CPC, BBC, Electron, C16
- 7 Infiltrator** KIXX
Spectrum, C64, CPC
- 8 SAS Combat** CODE MASTERS
Spectrum, CPC
- 9 Street Gang** PLAYERS
Spectrum, C64, CPC
- 10 Frank Bruno** ENCORE
Spectrum, C64, CPC, C16

RE re-entry • NE new entry • Last week's positions
Compiled by Gallup
The charts shown are based on the Open Market, that is retailers who stock a broad range of products. All charts shown are copyright of Gallup.

BULLETIN BOARDS FACE TAX BURDEN

Users will be penalised

Leading bulletin board Micronet is spearheading an attack on the Government's recent budget which decreed that on-line time and subscriptions are taxable.

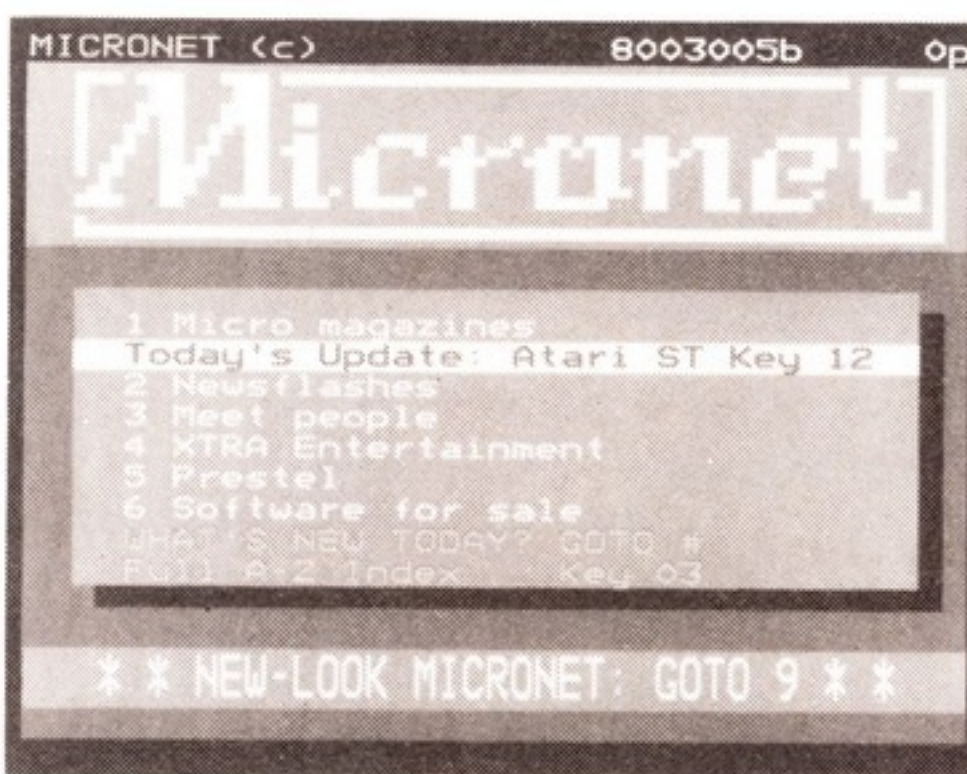
The chancellor had decided to slap a 15 per cent VAT bill on all users of bulletin boards because they come under the business service umbrella. However, Micronet has branded this unfair because non-business users are being sucked in.

An apology

New Computer Express on behalf of Future Publishing would like to take this opportunity to apologise unreservedly to MicroProse. Future Publishing last week humiliated the latter firm's leading lights 13-3 in a "friendly" football match. The software house was crushed without mercy. We now accept that Microprose's staff were not ready to face those of Future and we are sorry for making mincemeat out of them. We are happy to set the record straight.

Micronet - part of the huge Prestel service - is to present a report to the Treasury next week which will ask for the law to be made more specific. Its moves are being backed by rival Compunet although that service is looking to use local methods to sidestep the taxes.

"The tax was really aimed at news services such as Reuters because that's a business service," said Micronet's David Rosenbaum. "Micronet just happens to come under that though and so user will be penalised. We want to say no to VAT."



• Micronet: VATman strikes

Micronet is confident that it will be able to convince the Treasury to relax its ruling.

A spokesman told Express that the matter would be investigated.

Stars Wars XLs

Software starved Atari 800 owners should be pleased to hear that Domark is releasing Star Wars for their micro. This coin-op conversion places you in the hot-seat of an rebel X-Wing Fighter on a mission to take out the Imperial Death Star. Out later this month, Star Wars will cost £9.99 cassette, £12.99 disk.

Digital Integration on cloud 9

Enormous American software house Electronic Arts has ended its search for a simulation of the US fighter F16 - in the UK.

The firm has scooped up Digital Integration's flight sim which will be used in the US. EA - which produced *Interceptor* - will be pitching *F16 Combat Pilot* as its premier flight sim for the year.

"It's our first release in 12 months and programmers have been working day and night on it for two years" enthused DI's Dave Marshall.



• F16: Doing well over there



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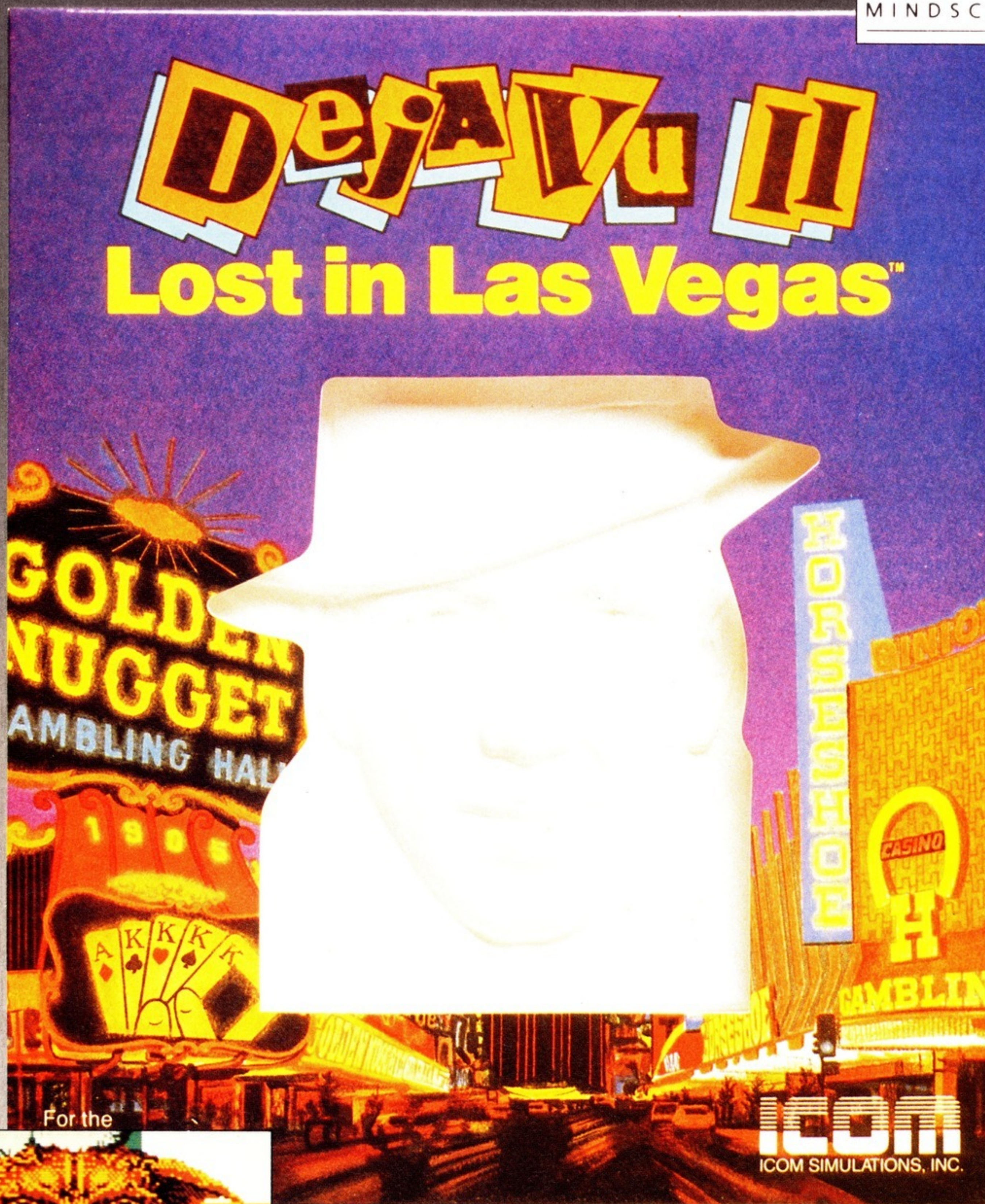
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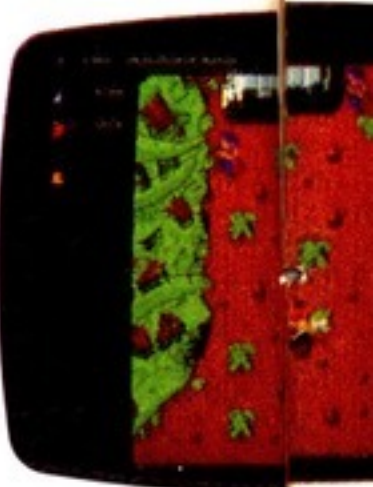
BEYOND THE ICE PALACE. £19.95
Elite.



BUGGY BOY. £19.95
Elite.



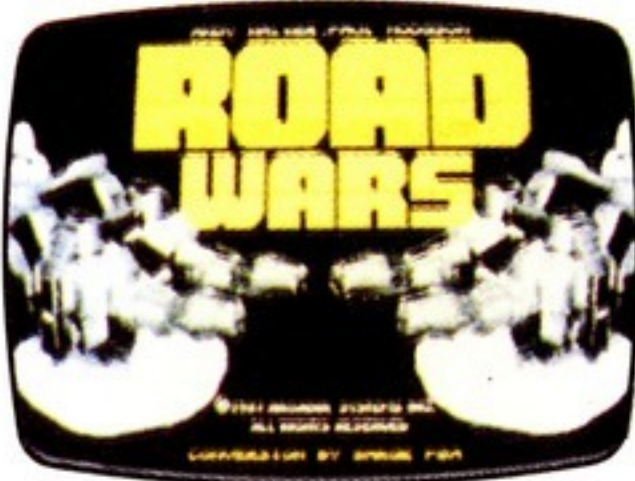
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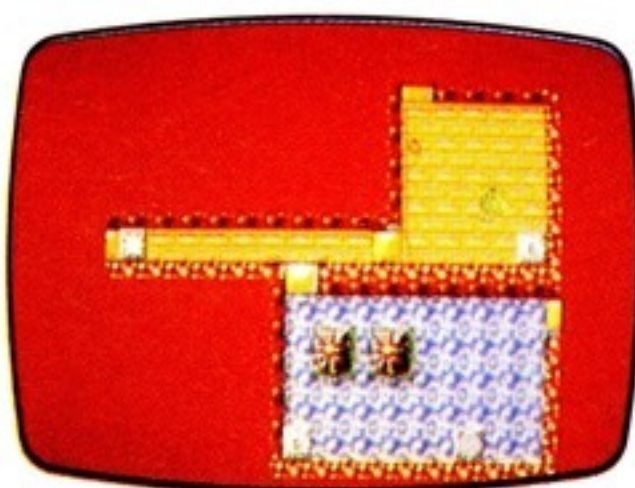
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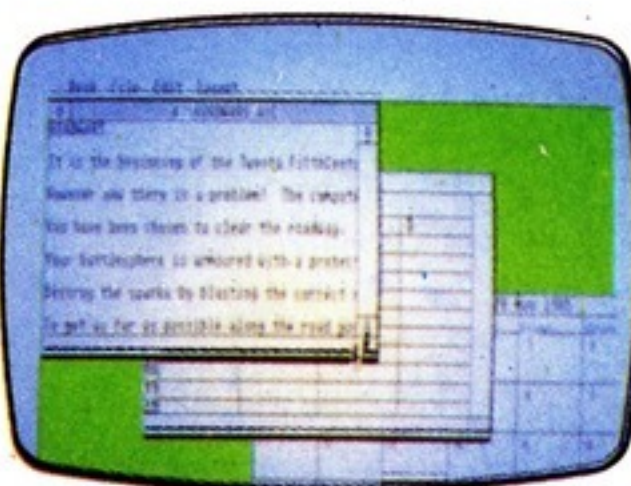
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SOME MORE EQUAL THAN OTHERS

I have collected your brilliant magazine from the first issue and I have enjoyed every single one. I do, however, have one complaint which concerns the way your magazine is based around Atari ST and the Amiga computers which together held approx 9% of the computer market while the Amstrad CPC, the C64 and the Spectrum together held 81%. I would like to know if you do this on purpose or is it that the eight bit computers don't make much news.

Also I read your guides to the best software on the ST and the Amiga and wondered if you would be kind enough to write guides for the other main computers on the market.
John Dawson, Enfield, Middlesex

● We certainly try to give equal coverage of all machines in principle - hence the columns - but in practice all new software is either business packages for PCs, video graphics programs for the Amiga, or games.

We're planning guides to the best software for several more machines in the near future.

VIRUS KILLERS

I have had my Amiga since the beginning of last February and during that time have had many of my disks corrupted by viruses such as SCA, Byte Warrior, Lamer Exterminator, HCS etc.

I found the latter two by chance when visiting a friend's house, and I have come to the conclusion that these viruses/trojans are evil little b*****s and I want to do my bit to wipe them out.

If anyone out there doesn't have a copy of the latest VirusX (or equivalent) then send me a disk (blank, or preferably containing some PD software) and return postage. I will send them my latest compilation of Virus Killers the same day.

My address is:
37 Warwick Avenue
Crosby
Liverpool L23 3BS
Alex Lennon, Liverpool, Merseyside

● Good to see someone offering practical help to put the boot in on the virus writers. How about a few more people doing the same?

WET PATCH

As a keen ST user, I was fascinated to read the article in PCW Patch (Express 21) about the use of a Mac for wordprocessing. Particularly amusing was the description of a PCW with Protext as "the ultimate writer's machine". Ignoring such considerations as the lack of power (a Z80?), tight memory, poor printers, awful keyboards, and horrendous displays (murky, blurred green or flickery white), how can a PCW be ultimate when it cannot use a hard disk, for large files (such as books), or a laser, for high quality? Pretending Protext

Dear Reader

More pages packed with another selection from our postbag. Have you got something to say? Make your voice heard in computing's liveliest letters page!

Send your contributions to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

PS. Sorry, we just don't have the time to give personal replies, whether you include an SAE or not. We're too busy putting Express together!

is better than MS Word (chuckle!).

Wouldn't a far better option be a 520 ST FM, mono monitor (the most beautiful computer display I've seen, including a Sun colour workstation!) Star LC-10 and Protext. It would cost only about £100-£150 more, and would be far more powerful and versatile, with better screen and printer and great upgrade potential. Not to mention absolutely stunning games. For about £200, you can even pretend it's a Mac.

D P Jones, Newport, Gwent

● I think you missed the point of the article, and anyway your facts are questionable. Only £100 more? The PCW 8512 (512K memory, same as an ST, and yes it does take hard disks) can cost just £415; an ST plus Star LC 10 and mono monitor is at least £620, a lot to pay just to be able to play games which all cost £25. The difference in speed is negligible when you word process as 99% of the time the processor is waiting for you to press a key - even when you're touch typing as fast as me. Surely for the price the PCW is still the best word processing setup by far.

STARTING A CLUB

Congrats on an excellent mag. I like the classifieds idea (perhaps the most important part of a magazine - I hope the fees are reasonable.)

I'd like to mention an organisation I'm trying to set up - 'A Guild of Unemployed Atari ST Owners.' The main reason for this is that some users will be isolated by costs of current software and will therefore write their own. The Guild will be set up as a pool of these programming marvels with free access by members - a sort of PD software library with no fees.

Membership will be for a nominal fee (sae with every contact) and software will be freely available for their use. A similar system was set up for Spectrum Owners a while ago and seemed to work OK. Any advice/hints would be greatly appreciated.

Software Producers please note! Not all computer owners can afford to shell out £30 per week for the latest 8 bit re-write.
Mich Ibbotson, Sheffield, South Yorkshire

● A good idea - hope it works. Nice to

see someone taking a bit of positive action instead of moaning about how they 'have' to copy software because they can't afford it.

Anyone who can spare a bit of help or advice should contact Mich at 262 Barnsley Rd, Sheffield, South Yorkshire S4 7AG. Tell you what, as soon you get the guild set up, Mich, drop us a line and we'll contribute a year's free subscription to New Computer Express or to our sister magazine ST/Amiga Format.

MIND THE GAP

I recently purchased 'Dragons Lair' for my expanded IM Amiga A500. On getting home and loading it into my machine. I noticed a large 2" gap at the top of the screen, with some of the picture pushed off the bottom. I contacted the shop where I bought the game and they told me that all copies of the game did that, and that I would just have to live with it.

Could you please tell me why this is the case? None of the screen shots I saw in reviews had this gap at the top. I've got games and utilities with a small gap at the bottom due to the differences between PAL and NTSC, but this is the first to have a large gap at the top.

I'd never have paid £45 for the game if I'd known it wouldn't be full screen.

John Key, Manchester

● Shouldnt be any problem with the game; we've never heard of it before. We reckon it's nothing serious, just your monitor not synching properly; try mucking about with the knobs on the back.

THE PRICE IS WRONG

From the letter 'Money Go Round' (Express issue 22) I quote your comment "I've never seen a satisfactory explanation of where the money goes."

Well, a small snippet to get you going... I recently worked as a computer sales assistant for a well known high street store. I was shocked to find out when ordering software that the store purchased software at half price from its distributor, therefore making a huge profit of up to 50% when selling to the likes of you and me.

Possibly this is why mail order is so cheap in comparison. They only wish to make a profit of between 20-30%. Now

SHOT TO PIECES

I am writing to complain about Psygnosis' packaging of *Barbarian* on the Atari ST. I know this is an old game but I thought that I would bring to your attention that the screen shots on the back are misleading as two out of the three printed are in fact fake and not in the game. I know this as I have finished the game exploring all possible locations. When I phoned Psygnosis they replied, "some of the screen shots on the back of the packaging have not been included as the programmer felt it best not to include them in the final released game."

I definitely bought the game due to the quality of the screen shots and attention to detail.

I would like to ask New Computer Express whether this comes under the law for misrepresentation of goods, and if any other people who bought the game have been annoyed or angry at this.

I would also like to know if there is an IBM Compatible emulator for the ST and at what price.

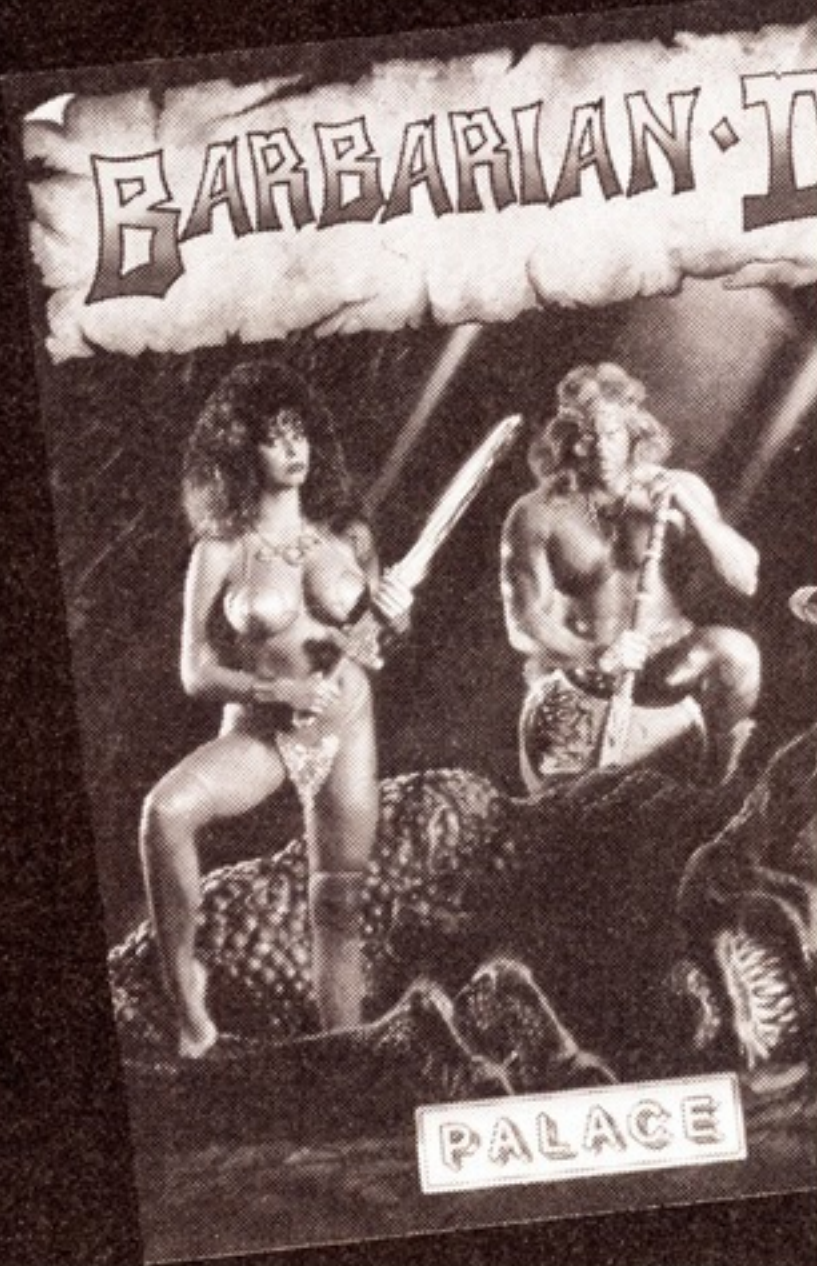
B S Sharman (14), Uckfield, East Sussex

● Simple commercial reality suggests that Psygnosis wouldn't be

smart to allow this sort of thing to happen again. As for the legality of the matter, opinion is divided. The Sale of Goods Act may technically have been breached, but it's unlikely that even lawyers could be bothered to argue about it.

To calm your anger, we're sending you a prize. No, it's not a PC emulator for your ST (try Microdeal on 0726 68020 and ask for PC Ditto details). Instead, it's a splendid ST game from Psygnosis. And do you know - the dear chaps aren't even aware yet that they'll be sending it to you...

MYSTERY
PRIZE
INNER



I'm sure I'm not alone in thinking the public are being taken for a ride, and I believe that an exposé of software prices should be written which will put pressure on the likes of W H Smith and Boots to cut their profits.

It is also evident from the above that pirates are not the main cause of high software prices: therefore do not pass the buck as others have done before you. The real culprits are a lot closer to home.

I therefore challenge Express to investigate this matter and to produce an honest account of the rip off in the high street.

(Name and address withheld at writer's request)

● Such mark-up levels really aren't out of step with other industries, unfortunately. The multiples argue that they have to take that much in order to justify stocking software at all. Publishers say that they have to have "high street visibility" - i.e. big shops selling their games.

But the whole question of software pricing is too complicated to address in one single letter reply. Just wait for our detailed explanation in a few weeks' time.

ANY PORT IN A STORM

Are you all fed up and frustrated by plugging your joystick in/out?

Here is a solution.... try plugging in/out your joystick for about five times, and once you are fuming with anger, pick up your computer and fling it across the room.

Pick up all the broken pieces and sue the company for gross negligence with regard to joystick-port location.

Umair Malik, London E1

● Excellent idea. Do write and tell us if it works.



● Smashing it up is the best way to fix a joystick, says Umar Malik

THANKS FOR THE MEMORY

I am a Commodore 128 owner and I have a message for software houses and retailers - C64 and 128 owners are crying out for some serious software! I am always looking through magazines and in High Street shops for some decent software but when it comes to the 8-bits all I find is the usual list of 2,000 vertically scrolling shoot-em-ups.

Please Express, can you tell me where I

can find business or application programs of any kind which would make my 128 more than a toy?

Also, if there are any C64/128 owners out there who would like to exchange business, art, language packages etc for games, would they please write to me.

Derek Byrne, Mountain Ash, Ballynerrin Lower, Wicklow, Ireland

● Due to a foul-up in the way Commodore marketed the machine over here, C128 software in the UK is pretty damned scarce. Pete Calver at Supersoft (which has now become Audiogenic or else has always been Audiogenic; it's very complicated) used to bang on about the 128 some years back, so maybe he's got some products lurking in a warehouse. AudioSuperGenicSoft (or whatever it's called) can be reached on 01 861 1166.

Failing that, scan our mail order and readers' ads.

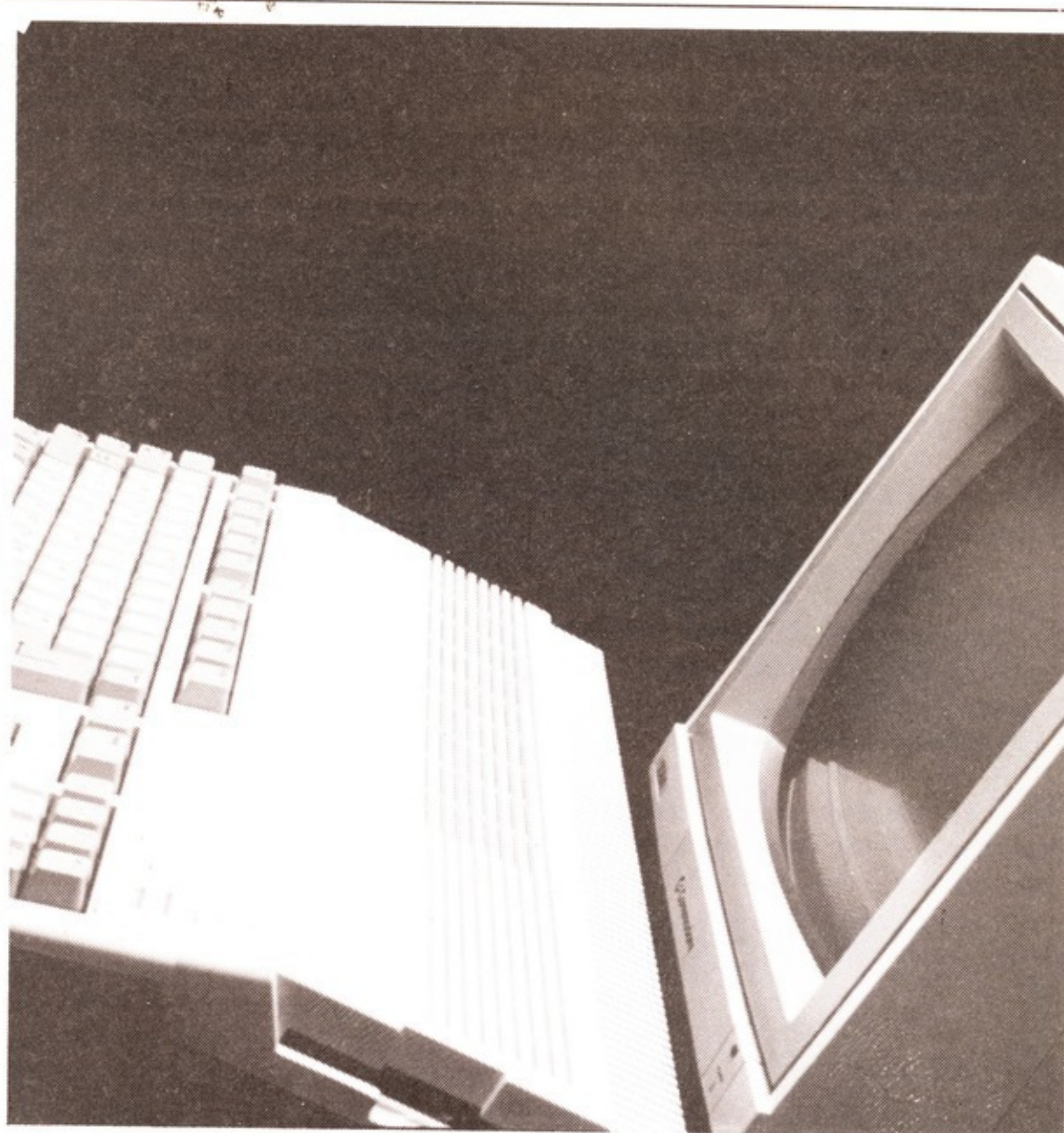
NEVER MIND THE GLOSSIES

We are writing to ask you to include in your magazine information of 'Micro Monthly', a new fanzine published entirely by computers. It has competitions, games reviews, hints and tips, puzzles and much more. It includes information about the Amiga, Atari ST, Archimedes, BBC Micro, Commodore 64, Amstrad and Spectrum, and is good value at only 75p. It is a perfect supplement to your magazine. Orders for it should include a stamped self-addressed envelope, preferably A4 size.

We would be obliged if you could consider advertising in Micro Monthly at the extremely reasonable price of - (That's enough puffery - Ed).

Andrew Bantock and Adrian Jackson, Northwich, Cheshire

● Ah, the young of today! Time was when



● The Amiga was designed to be easy to write viruses for, suspects JROK89

'Dribbling Infant', to give him his proper name).

They must have the same aims, motives and levels of unthinking immaturity as the morons who deface our parks and buildings with their aerosols and boots. Denied computers, they'd probably take up graffiti, snapping car aerials or dropping bricks from motorway bridges - if they don't already.

I expect they get a secret thrill from the inconvenience, anxiety and impotent anger which they cause, while having little fear themselves of being caught or punished. It must take that kind of inadequate, gutless worm to terrorize old ladies or make obscene phonecalls.

As for the Dribbling Infant - well, I imagine there are those who would like to find him and break his fingers. Me, I feel rather sorry for him.

Stephen Mercer, Shaftesbury, Dorset

● The problem is, getting so worked up about these characters is at least in part what they want. Accusing them of being "real" vandals and the perpetrators of sundry other crimes against humanity only gives them a vicarious thrill.

They're not as bad as those involved in physical violence: they're just complete and utter prats. Screwing up computers really isn't quite on a par with lobbing bricks off motorway bridges.

WHAT A POPULAR MAG...

I have bought Express since issue 17 and liked the magazine so much I ordered some back issues. Unfortunately I was unable to obtain issues 6, 9 and 16.

Can anybody help me obtain these issues?

T Hough, Redcar, Cleveland

● I'm afraid that at present issues 5, 6, 7, 8, 9, 15, 16 and 17 are sold out and are effectively collector's items.

It just goes to show that Express is in such demand that all readers should automatically take out a sub or get a copy delivered by their newsagent. End of subtle propaganda...

GREAT TOPICS OF OUR TIME, PART 983

After several weeks of reading your excellent magazine I feel some final words must be written on the big topics of today (yawn, not more I hear you cry).

1 Porno software: Strip Poker, Teenage Queen, and so on... Why buy them?? For 1/10th of the price of these games the frustrated computer games can go and buy Playboy or Penthouse which have lots more glossy hi-res pictures than the best (or should it be worst?) of the poker games, erm well so I'm informed anyway not that I'd actually...

2 Best machine: Q Which machine is the best? A Whatever machine you own.

As a guide to surviving the arguments follow my example and buy more than one machine (I have a PC and an Amiga) plus hang onto your old 8-bit machines (e.g. VIC 20). As a side point you can read most of the Your Format columns in this mag.

3 Viruses: They are the easiest thing in the world to write for 99% of home computers (the Amiga was designed for them, I'm sure). There is nothing hard, challenging or clever about writing them so far they can all be easily found and destroyed (unlike the sh**s who write them).

What on earth is the Beeb Bandit on about? Friends of mine were writing Econet viruses 4/5 years ago. They're old hat to put it mildly. With any luck the prat will grow out of it or get thumped.

4 After your article on comms and modems I'd like to draw readers attention to the AIX-386 bulletin board, it's a good board with lots of stuff for all machines and can be found on 0905 52536 and 0905 754127. Well worth a call.

JROK89, Leicester, Leics

● It's so utterly sickening to get reasonable letters like this. Where's the bile, the contentiousness, the irrationalities, the leaps in logic?

THE HONORARY CONSOLE?

I would like to recommend a games

console under £100. It is not the Nintendo on the Sega: it's the Atari XE games console.

For a mere £99.95 you get the XE games console, a neatly styled keyboard, a light phaser gun, a joystick and 2 games. The Atari XE games console easily has 5 times as many games for it than the Nintendo on the Sega, and there is also the bonus on the XE that you can plug in a data-recorder and load tape

games. The XE has good graphics and sound.

The XE might not be able to beat the likes of the PC Engine, 16-bit Nintendo and Sega but it beats the 8-bit Sega and Nintendo hands down. If you have £100 to spend and you are looking for a games console buy the Atari XE games console. You won't be disappointed.

Snardy Cadette, Walthamstow, London



• The Atari XE games console: Best of the 8-bits (Honorary Console)

● *Oh dear. If the "my computer's better than yours" argumentette is just a tad boring these days, where do you place the console equivalent? Minus infinity on the interestometer?*

Not quite. For those about to buy a console, even partisan comments can aid purchases. Honest. Well, that's the theory, at any rate...

GAME FOR A LAUGH

I have had several good ideas for computer games but I'm a useless computer programmer, so could you please give me some information on how I would go about getting a computer game published.

Andrew Ball, St Lawrence Bay, Essex

● *"Useless computer programmer", eh? You should apply to CRL on 01 533 2918. (A Lawyer Writes: The aforementioned comment is to be deemed an amusing and risible pleasantry of a satirical, diversionary and otherwise non-serious nature - i.e. it's only a joke)*

But seriously - you should contact one of the software publishers advertising in our Recruitment section.

GREAT TOPICS OF OUR

First of all, let me get the praise out of the way. Although I run a Speccy +3 and Computer Express only carries on average two columns devoted to the Speccy (+, +2, +2A, +3), I find your mag an irresistible read. It's full to the margins of interesting bits.

Right, that's that. Now down to the

messy end of the stick. In issue 22 (April 8), in the SPEX column, Robin Alway states that when it comes to selecting an 'Arty Farty' type of program for the Speccy he would go for the Artist. That's all well and good, but my advice to any +3 owners is to forget it. I purchased the Artist 2 disk version in December 88 and made a few amazing discoveries.

• Problem 1 - after loading or saving files the disk motor fails to stop. This can be overcome by doing 'cat' (one shouldn't have to do this).

• Problem 2 (and to my mind the most serious drawback), having spent a lot of time doing your thing on the screen (the mind boggles) you select the print option, press the key to print and 'viola' in front of your very eyes: a right load of cr... sorry, garbage.

After much messing around I decided to write to Softechnics (the publishers of Artist 2) and duly sent off a very nice letter. That was on December 29. By the time February arrived, no reply had been received. So on February 25, another letter was sent off. Yes, you've guessed it. No reply. So again on March 30 another letter was sent off and to date (April 10) no reply has been received.

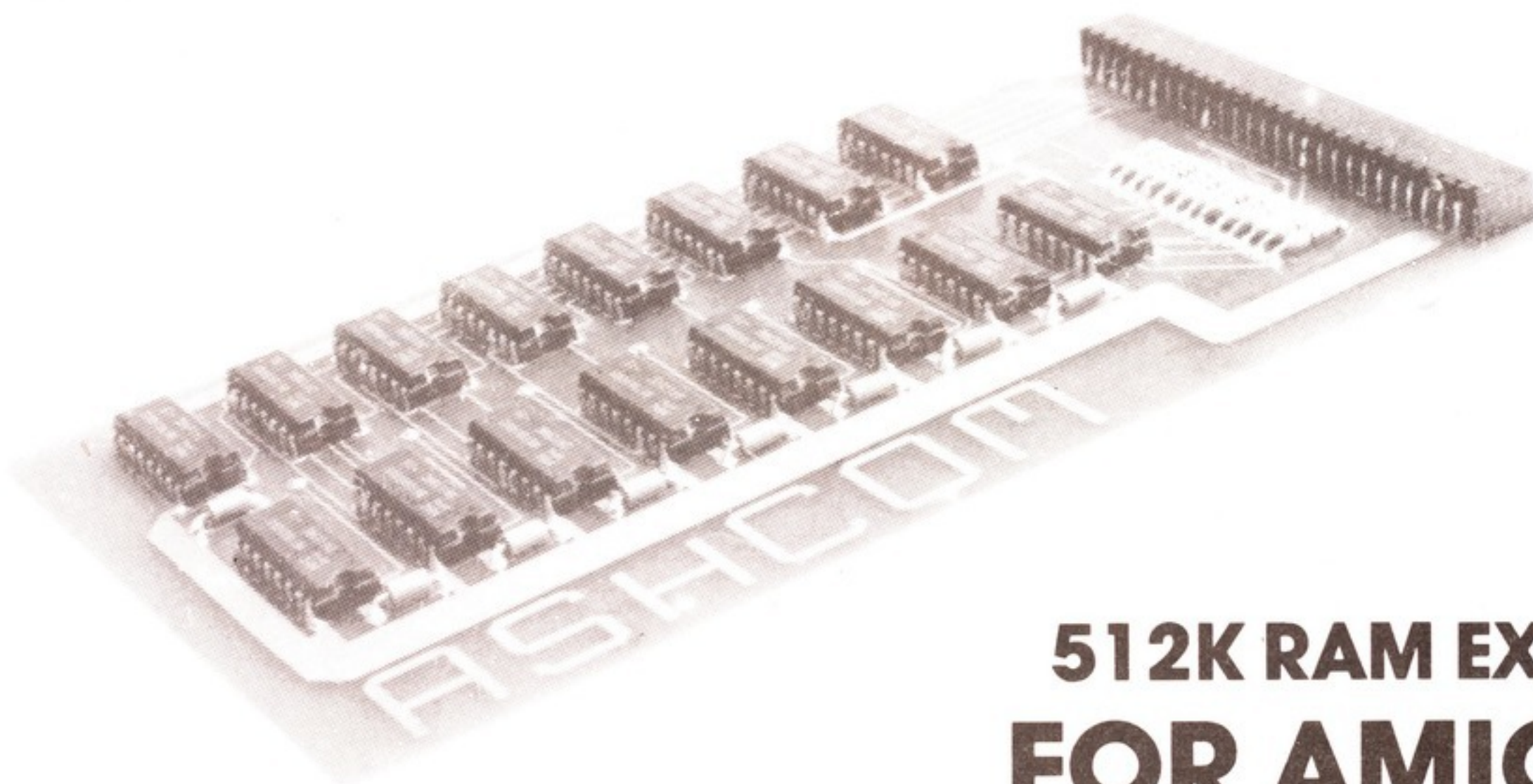
A review has been done by another magazine and it would appear that they too have had the same problems. So my advice to potential buyers (+3ers) is to stay well clear, unless of course Softechnics can correct the problem.

Sorry, but cases like this really get on my goat, especially when 99.9999% of companies are so very helpful.

Barry Walton, Whitley Bay, Tyne and Wear

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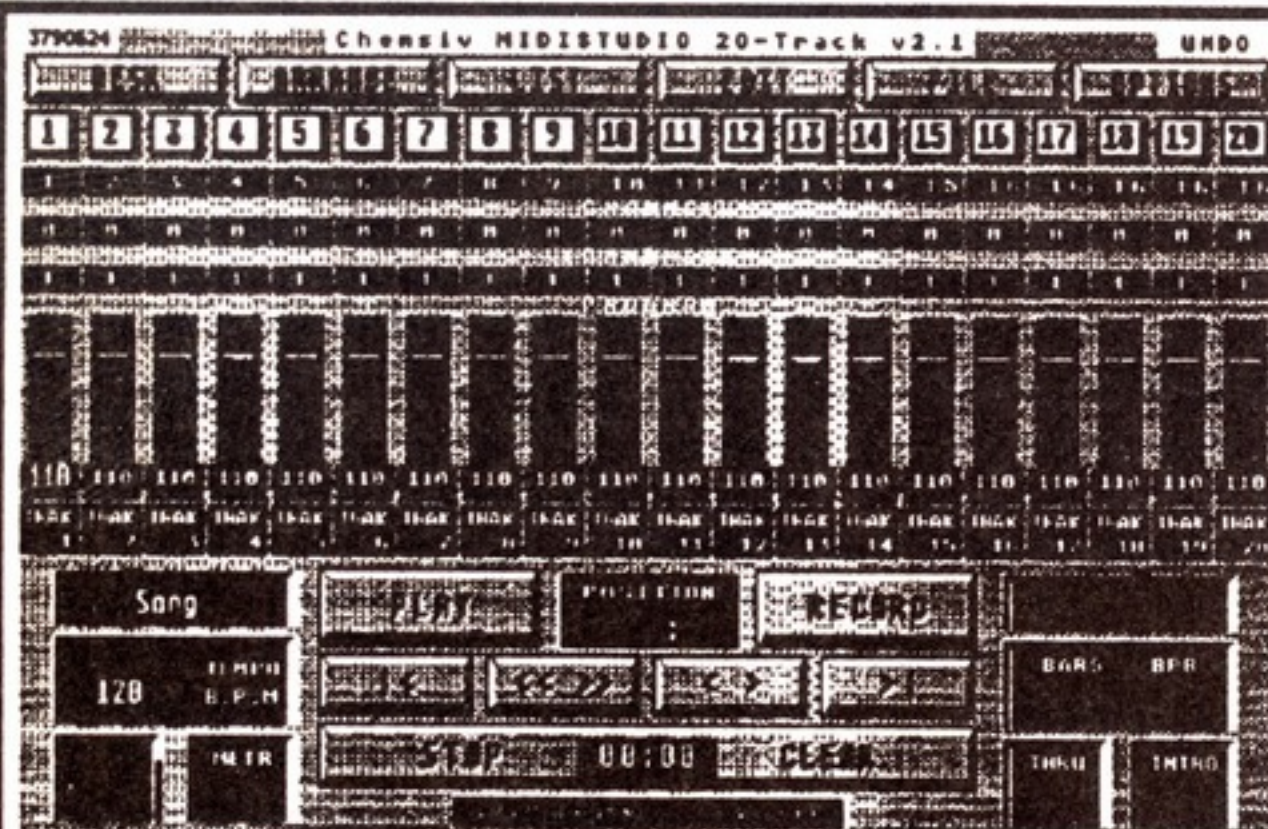
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Midistudio £99.99

Midistudio is a 20 track Midi Music Studio. This Midi software package is a realistically priced introduction to Midi music processing and includes the following features. 20 tracks each assignable one of 16 midi channels, each track can be transposed up or down 2 octaves, the main screen features full tape deck controls with individual volume sliders for each track, note editing facilities including editing of pitch, octave, duration and velocity, plus full midi controller editing (pitch bend, mod wheel, etc.). Full control over phrases is offered through Quantizing, transposing, and phrase arrangement software pages. The arrangement facilities allow moving and copying phrases on any of the 20 tracks. The package is easy to use and is a strong competitor with Pro 24.

"will give Steinberg's Pro 24 a run for it's money"
ST WORLD March 89



SCAN AT UP TO 1000 DPI FOR ONLY £89.99

The Image Scanner is a peripheral for the ST which can provide high quality graphics digitising for a tenth of the cost of other digitisers. This simple unit plugs into the cartridge port of the ST and accepts scanned information via optical cables which fix easily to the head of any printer. Scanned images can be saved in raw data, Degas and Neochrome formats. The Software supports scanning resolutions of 75,150,216,300,360 and 1000 dots per inch horizontally. An example disk is available which contains a slide show of images scanned with this product. The cost of this disk is £3.99, £2.00 of which is redeemable on purchase of a scanner.

IMAGE SCANNER ONLY £89.99

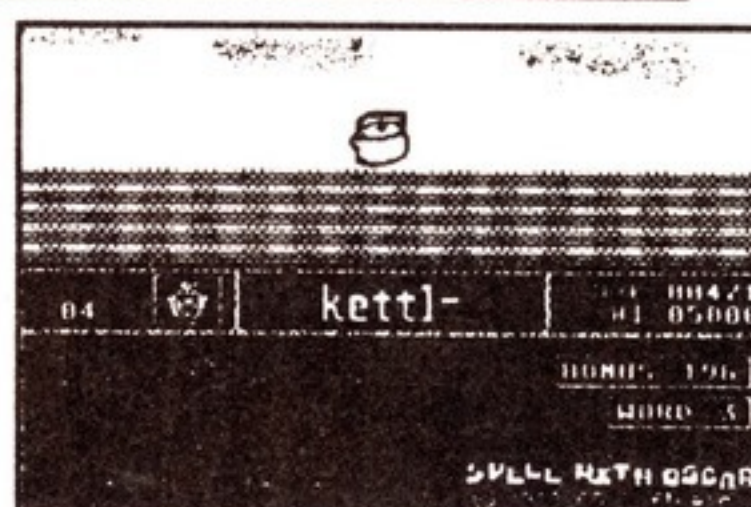
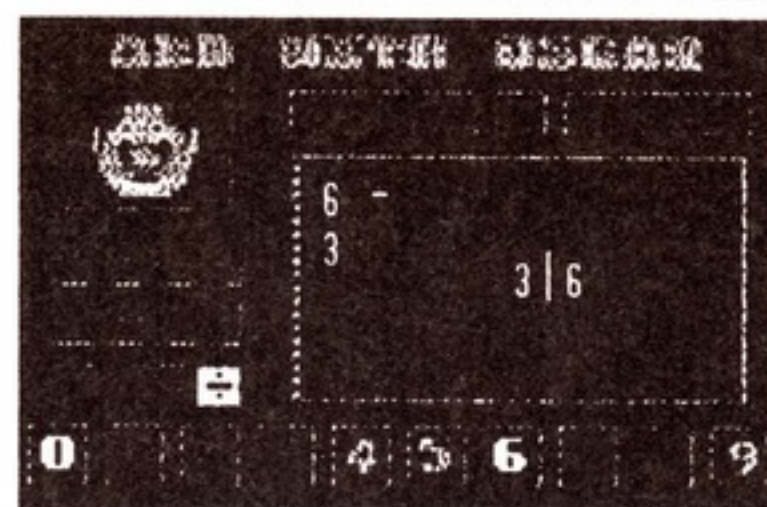


Add With Oscar £12.99

Add with Oscar is a fully mouse controlled educational game with full colour screens and sound for teaching addition, subtraction, multiplication and division to children. This program has selectable difficulty levels and a Hi-Score table.

EDUCATIONAL SOFTWARE

Spell With Oscar £12.99



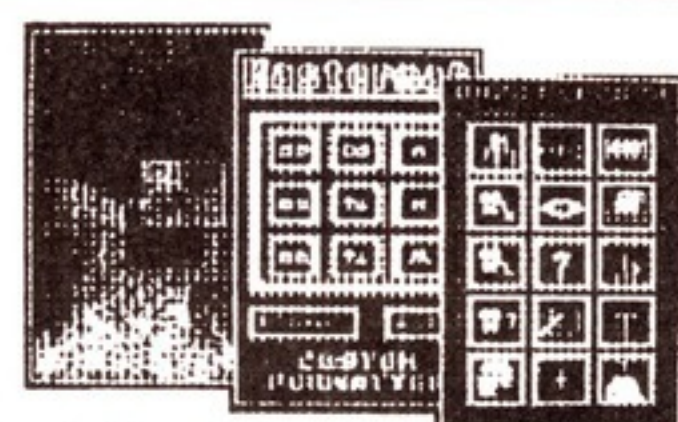
Spell with Oscar is a game which teaches spelling, keyboard skills and motor coordination. Pictures of objects move smoothly across the screen and the pupil should spell the name of the object while Oscar checks for mistakes. Spell also incorporates selectable difficulty levels and a Hi-score table. **Extra data disks £6.99**

Quick List Plus is a utility that compiles a directory of your disks. Sort on disk or name, reads any drive, including hard drive. Printer output for hard copy of databases.

Mastermat is a formatter that optimises disk space, allows non standard sector and track formats/ fast read format.

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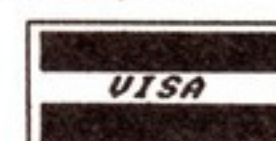
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Read/write all about it!



When The Guardian went over to electronic publishing the difference was immediately apparent – a new, clean, uncluttered look perhaps only marred by the loss of all those wonderful spelling mistakes. Andy Storer visited its offices to see the sophisticated means by which today's copy becomes tomorrow's news.

Imagine being bussed through barricades, plonked in front of a computer for the first time and told to produce a newspaper. That's what happened at Wapping in 1986. When Rupert Murdoch and Eddie Shah, with more than a little help from Margaret Thatcher, decided to bring Fleet Street up to date and save a lot of money in the process, competition to sell today's stories as tomorrow's news put new emphasis on the term "hot metal production". Newspaper groups either shaped up or shipped out as cut-price production pushed the competition for circulation to new levels.

Sixteen months ago, *The Guardian* decided to shape up. Before then it was still using a good deal of the "hot-metal" production process

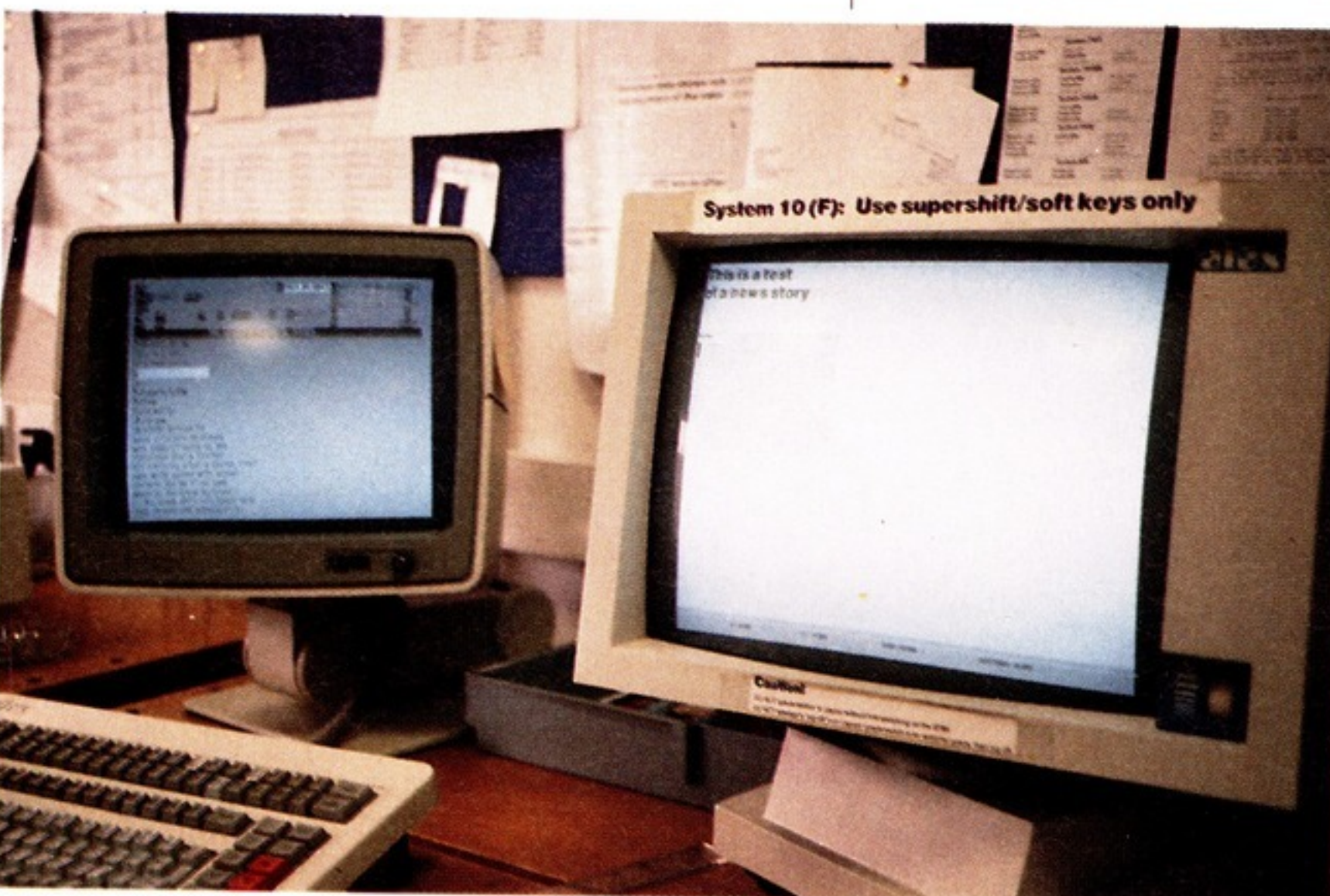
dispensed with in the USA and Australia seven or eight years earlier, where union power over the introduction of new technology failed to take hold.

The "hot metal" method organised newspaper production into quite distinct units. Journalists working on typewriters produced bits of paper which were given to sub-editors to pencil in changes to grammar, spelling and facts and who added instructions on type size, style and prominence on the page. The edited copy, still on paper, would then go to the printing room to be retyped by Compositors on Linotype machines substituting lead "slugs" for each individual character of text. The "slugs" would be positioned and sized on long trays, or galleys, following a design drawn by a journalist.

The galleys would then be curved, and hot molten lead poured over the typeset surface to produce a mirrored image. Finally, this cast would be wrapped around a printer's drum and ink transferred onto paper as it rotated.

From typewriter to terminal

Although many newspapers incorporated computers into their printing rooms five or six years ago, all that changed as far as writers were concerned was that the codes written



• Two terminals running off the ATEX system: unformatted text on the left appears as block make-up on the right

A day in the life of news

On a busy day there are 120 people producing *The Guardian's* stories. Half of them writing, half editing. Each day, the six or seven news pages – comprising 50 stories – are subbed, laid out and faxed to the printers in five hours. The last page, which is always the front page, goes off at 9.15 p.m. From 3 p.m. onwards the other 25/26 pages making up the newspaper are also faxed. From 2.30 am each day, all old wire and typeset stories are purged from disk. All versions of stories are relayed to back-up disks and held for six months. The free space they leave is verified and redistributed within the system.

Arts, page 45
The Shakespeare shake-up after Terry Hands

Women, page 25

over their copy to signify size and style instructions were slightly different. But in terms of production, the composing stage was replaced by edited stories being entered directly into a computer database and then typeset onto strips of photographic paper.

After layout, the strips would be pasted up to form a single page and a photographic plate made by printers. This plate would then be wrapped round a drum as before, and the print run begun. This process was an improvement in terms of cost-effectiveness and time management, but stories were still being retyped into another device before being typeset. In an industry of increasing competition, a more efficient means of production was sought. The solution was direct input.

Going on-line

Changing the entire production process of a newspaper which has to appear on the streets each day isn't going to be achieved overnight. A year before going on-line, *The Guardian* invested in 150 Tandy laptops for its reporters in order to prepare them for the shock of the new. In-house writers used the Tandy 100 to word process

Which lead?

One problem facing the modern roving reporter is the difficulty in finding the right lead to hook your portable up to a phone line. *The Guardian* is currently attempting to find all the Tandy leads in the world – from Australia to Zimbabwe – so its overseas contributors don't have to resort to telex – although even telex can be routed straight into ATEX via serial communication processors and treated as wire stories. But finding a telex agency is often a story in itself! Otherwise, it's down to phoning up the copytaker and shouting the entirely mythical "Hold the Front Page".

Hard wired

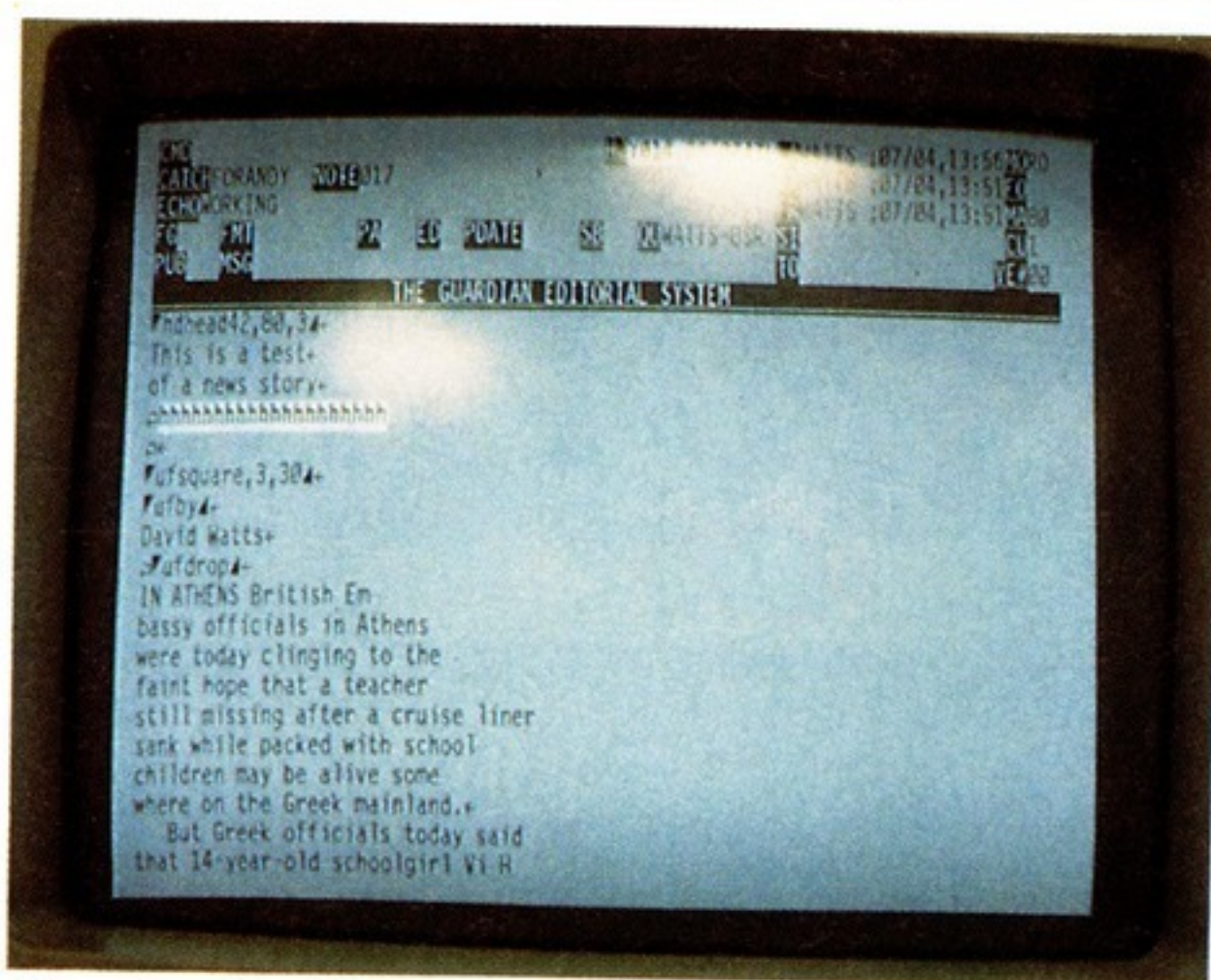
As an entire issue of the paper comprises approximately 7.2 Mb of data, you'd think the 180Mb total spare would be plenty. But besides having to cope with anything up to 200 programs as background tasks at any one time, there are two additional demands on resources.

Firstly, there are the wire services. *The Guardian* subscribes to 9 on-line news and information services which are always open. Besides the the services Reuters provides on one line, often comprising 3,000 files a day, there are financial, sport and government press release services along with foreign electronic news such as the Washington Post. Add to this 3 telex channels, and you have a massive input of data around the clock.

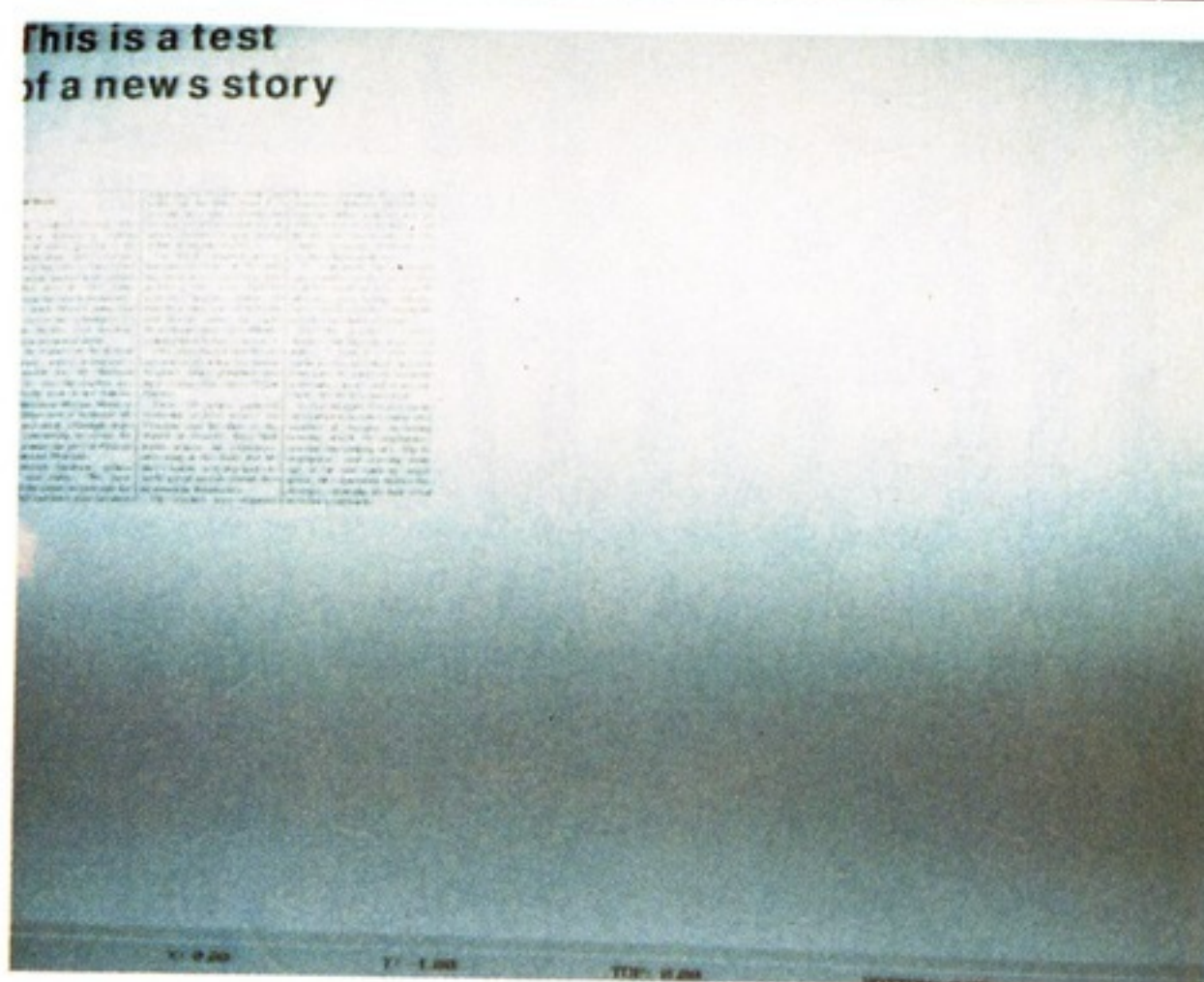
At the time of the American Presidential elections, the paper had to power down for 20 minutes and re-boot the entire network, such was the overload on system resources. The phenomenon, known as a Wire Flood, came about as a result of the continual updates on the Bush-Dukakis race taking the form of short "takes" of data arriving at a rate of 10-12 files a minute. If a wire flood is anticipated and a system is in danger of overflowing

with data, all other systems build "down-queues" which save all overflow material until the source system has been rebalanced with more available memory from the total available managed by the multi-processor bus.

The second demand on resources are the numerous PC users who contribute material to the newspaper from out in the field and abroad. Anything up to 200 users may require access to ATEX in addition to being able to use the network as a medium of access to the wire services themselves. Users can log-on to ATEX just as if they were in the building and upload or download files according to their status. Twelve lines of input need to remain permanently open for this purpose and the user is afforded most aspects of ATEX apart from typesetting.



• Copy entered into ATEX needs to include all the control codes for headline size, text position and sizing. So despite the enormous power of the ten mainframes, there's none of the WYSIWYG of standard PC-ware



• However, mainframe power does mean that block make-up is almost instantaneous. Here, a high resolution monitor allows for several stories to be viewed on a page and positioned at will

articles before printing them out to be subbed, whilst out on the road the Tandy 102 with its internal modem allowed journalists to familiarise themselves with the mechanics of modem protocols and control codes. Copy could be dialled to a Telecom Gold mailbox where it was converted into telex and sent to base.

But this low-level computer literacy stepped up into a higher gear when *The Guardian* invested in the ATEX newspaper publishing system developed by Kodak. This is one of the world's most popular packages and is designed to run in a networked mainframe environment, although cut-down versions are being introduced for the PC market.

Screen printing

ATEX enables a journalist to type a story directly into a shared database, where it can be retrieved by editors, checked and subbed, sized and coded for style – all on-screen. In theory, the system allows every user to write, edit and typeset their own story. But, decision making being what it is – combined with the traditional division of labour –

makes the need for sifting, for the subbing of spelling and grammar, checking of legalities and placement and appearance of text and artwork on a page determine the chain of command.

The degree of direct typesetting – or full screen make-up, as it is known – depends on the level of software being used. Some national papers produce full pages complete with spaces set aside for pictures. *The Guardian* produces block make-up where each story comes out independently with spaces for pics and captions. Whatever the outcome, a full page bromide or photographic image of the page is produced, with pictures pasted in position. The resulting master bromides are then faxed to the printers for duplication.

The result is that control over deadlines, length of copy and design has passed dramatically to editorial. And overall responsibility for the product has passed with it. Added to the losses in jobs for compositors and typesetters were those of proof readers. The teams producing the words could no longer pass the buck – any mistakes were theirs. Or, of course, their computers! ●

ATEX specs

The Guardian's ATEX runs on ten DEC mainframes arranged in pairs. Data is distributed between them such that Home News runs on the first two pairs, City news and Sport share 5 and 6, Foreign News is handled by 7 and 8 whilst Features share 7, 8, 9, and 10. The network is managed by a multi-processor bus – a network brain which among other things allows simultaneous

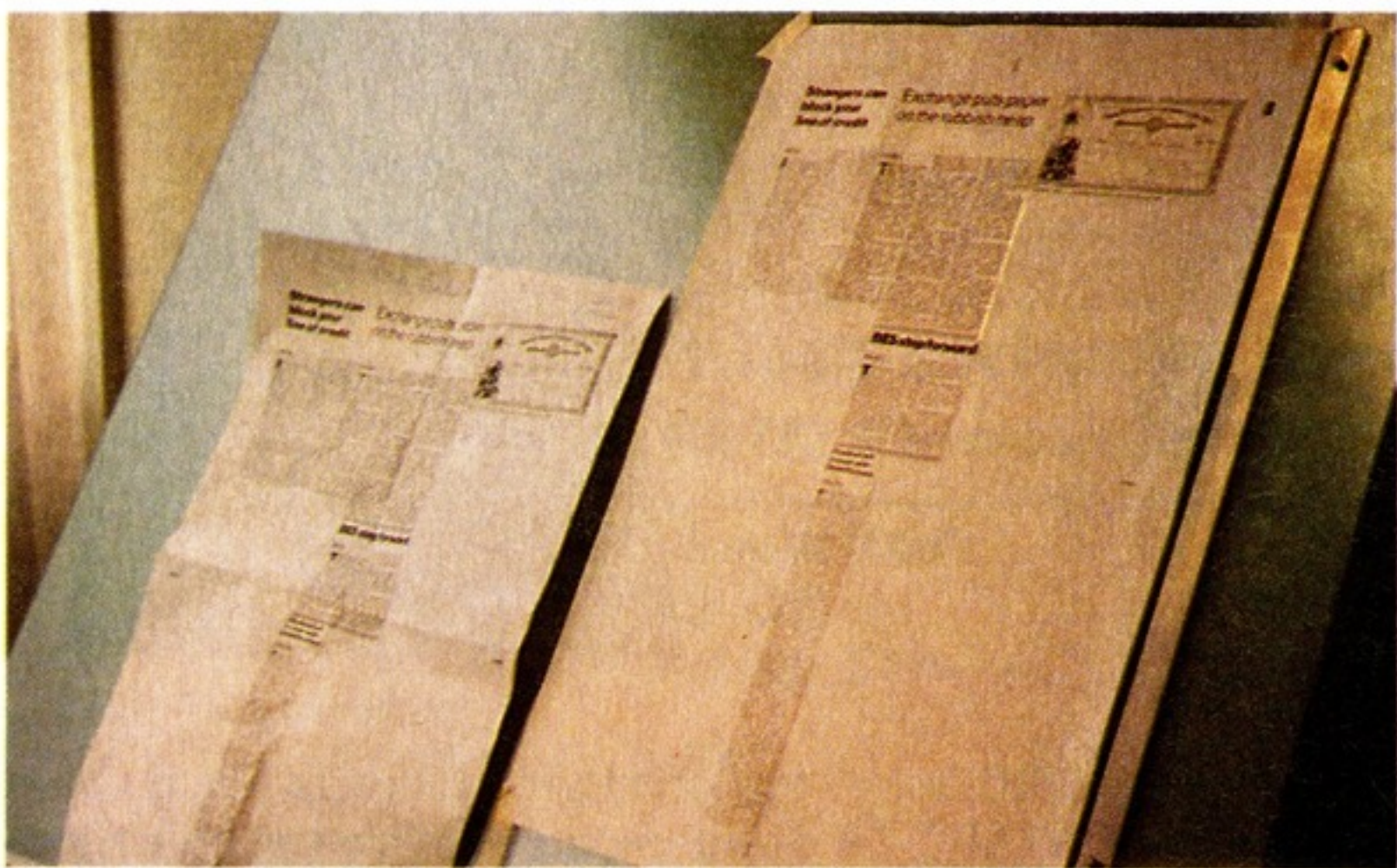
communication between mainframes, such that a story written on the Foreign News system, for instance, can be read from any other.

Although each section of the newspaper is assigned an area of the network and operates as a separate unit, overall control resides in the Editor, Duty Editors and Day and Night Editors. In addition, there's the System team needed to keep the show on the road – A Senior Systems Editor and his assistant, seven systems managers and nine systems operatives plus a new technology co-ordinator.

As we're dealing with a 24-hour operation, you might expect vast amounts of memory and storage to be needed. Each mainframe has a 300 Mb hard disk which is constantly monitored and its data duplicated by its partner. Although ATEX system requirements take up to 50 per cent of each hard disk space, and 25 per cent is given over to libraries and personal use, there's typically 180 megabytes left on each system.

Total		Free		Min		Machine 10 Status at 14:18:56 07-APR-89	
Common:	64	61	58				
Window:	537	428	284				
Buffer:	12	12	10				
Memory:	1000	476	455				
A-bus:	124	83	83				
B-bus:	876	393	372				
Machines online on MPB: 1 2 3 4 5 6 7 8 9 10							
Machines listening to MPB: 1 2 3 4 5 6 7 8 9 10							
This machine is up							
Vol: ARCB < is mounted remotely on machine #1							
Vol: MCRB < is mounted remotely on machine #3							
Vol: SYB < DJAB DJA1 DJA2 DJA3 DJA4 DJA5 Total							
Free blocks: 23422 23323 23369 23418 23402 23411 140,345							
Open data sets: 10							
Disk Queue req-writes/retries							
DJA 8 0 142,969-38,668/8							

• At any time, the Senior Systems Editor can check available memory and redistribute it between systems if necessary



• A rough printout is used as a reference for pasting up high resolution proofs for final artwork. Accompanying photographs would be introduced at this stage

Make the page cope with the news

Whilst stories are still being written, an A4-sized replica of the page is being designed on paper. The Guardian is adamant that layout shouldn't dictate either the content or the dynamics of a page, so whilst there's no rigid layout there are certain strictures. A page is 186 lines deep and stories start 17 lines down. Every 15 lines there's a grid line where a block of stories are meant to finish.

With those as guidelines, the number of columns per story are decided and whether a story has an accompanying

picture. The typeface, font size, headline and area are all decided in terms of the page's overall look. All stories are checked on-screen for accuracy, legality, spelling and grammar. If a story needs cutting to length, the old text is automatically stored should a new design require its recall. Once the page is OK'd by duty editors, the individual "blocks" are laser printed before being pasted up, along with pictures, onto a full-size grid. If all the elements arrive together, this can take as little as ten minutes.



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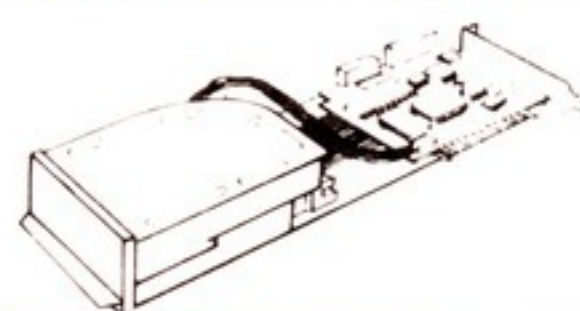
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HAPPY COMPUTER, December 1988

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AMIGA SPECIAL, January 1989

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c't, February 1989

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solved ... The speed of GFA-BASIC is good ... All in all, in terms of BASIC programming on the AMIGA the package makes a very solid and professional impression.

TOOLBOX, February 1989

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AMIGA-MAGAZIN, September 1988

Can BASIC programmers finally breathe a sigh of relief?

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ject orientated chapters. Each keyword is accompanied by an example showing its usage.

KICKSTART, January 1989

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CHIP, February 1989

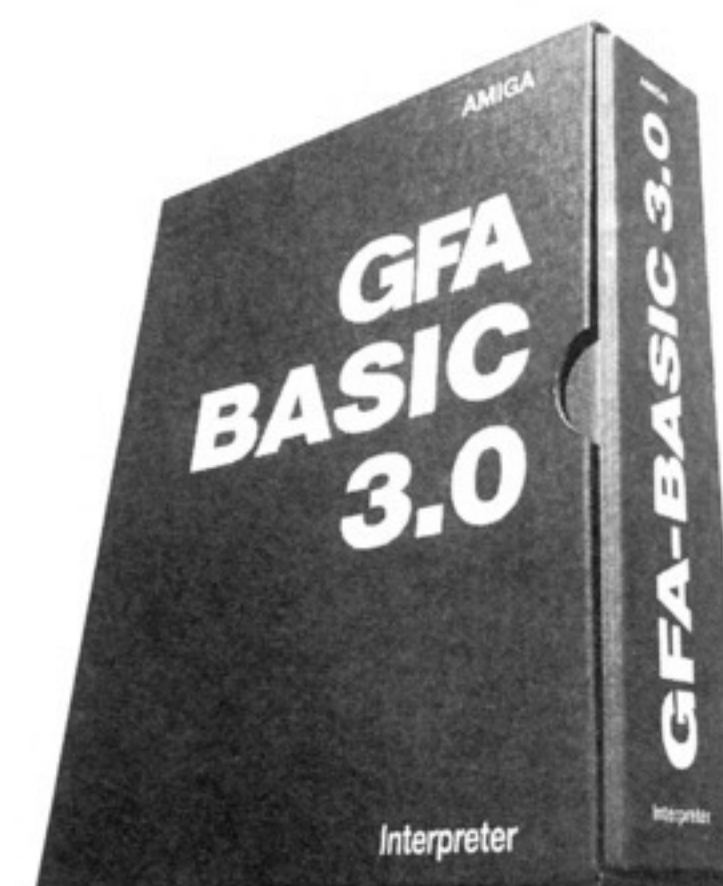
Basically speaking

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ST/AMIGA FORMAT, March 1989

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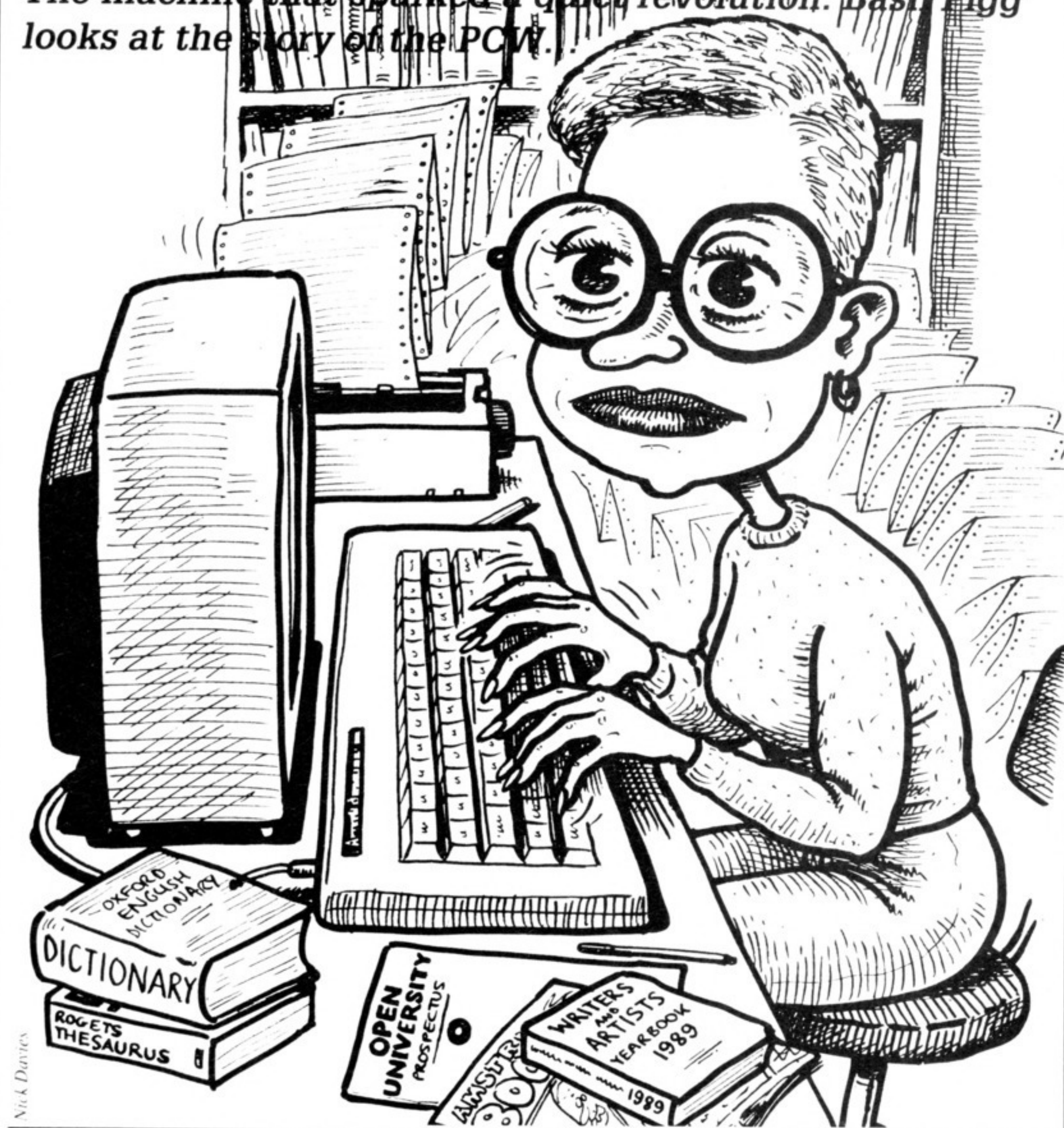
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Write on!

The machine that sparked a quiet revolution: Basil Pigg looks at the story of the PCW.



PCW Trivia

- The PCW features in *The Archers* (Jill has one on her desk) *Grange Hill* (one of the kids has one) and even *Emmerdale Farm* (Amos Brearly has taken over Henry Wilks' machine)
- The PCW has a greater proportion of female owners than any other computer – about 20%
- *LocoScript 2* is the only word processor in the world available in Welsh, Arabic and Urdu versions
- PCW disks are called discs because the word 'disc' was moulded by mistake into the prototype plastic case of the CPC464 when design work started. It would have cost £200 to change it, so money-conscious Amstrad perpetuated the English spelling on their other CPCs and PCWs – to the delight of English purists
- The PCW has no conventional ROM at all. The character set on screen and printout are defined entirely from the software. The disk boot facility is contained in the printer control chip – a neat piece of space-saving design
- The PCW 9512 printer, being a daisywheel, cannot do screen dumps. One enterprising owner in Avon, however, wrote a BASIC routine to print out screen dumps made up of thousands of full stops
- PCWs are robust: Naomi Parker of Orpington had hers struck by lightning in 1988. It was unharmed
- The three inch disks for the PCW8512 were sold in two types, single sided (red cases) and double sided (blue cases). After a few months buyers realised that the more expensive blue ones were in fact identical to the red ones
- The biggest software flop for the PCW was a typewriter emulator which cost £25. It had several bugs and fewer features than the built-in typewriter mode on the *LocoScript* that comes free with the machine
- After Britain, the PCW sells most in France – hence the French writing on the box
- *LocoScript 2* can cope with all Russian, Greek and European languages (including Anglo-Saxon and Greenlandish) except for some regional variants of Macedonian and Tartar
- The naff nickname 'Joyce' comes from Alan Sugar's secretary, Joyce Caley

If the Japanese hadn't borrowed Chinese characters to write their language with in 300AD, many things, including the PCW, would never have happened. Typewriters were virtually impossible to use as they required 2,000 keys, and all office correspondence was handwritten – until the advent of all-in-one word processors. These inexpensive computers with built-in software and printers swept the country in 1984, enabling every office and home user to produce printed, word processed output.

Alan Sugar, in one of his frequent visits to Tokyo, saw what was happening to the market and Saw That It Was Good. The typewriter replacement could be made to work in Britain too, he thought. In retrospect, it seems an obvious idea; many people want a computer almost exclusively to word process, but in 1984 this entailed buying a computer, monitor, printer and leads to connect them all up, finding a suitable word processing package, and finally configuring the system so that it actually works. Rather too much for the average typewriter user that formed the potential market. So, reasoned Sugar, put the lot together in a bundle, make it easy to use and they'll buy it in droves.

Which is what he did: a nice big 90x32 high-resolution screen, easy-to-use word processing software that would enable anyone to write a letter straight away, extra keys like WORD and LINE and PARA which move you to the next word, line or paragraph instead of the usual rigmarole of pressing [SHIFT] [EXTRA] backslash-P twice, cheap but reliable dot matrix printer – all connected together and set up so that all you needed was a plug and away you could go.

At the launch – a rather crass showbiz occasion whose sanity was saved by newscaster Richard Whitmore – the computer pundits laughed at the hardware on offer. What was this? A CP/M based machine, out-of-fashion Z80 processor, word processor no-one had heard of, three-inch disks... Amstrad, some of the papers and City institutions said confidently, had blundered. A donkey of a machine in a market of racehorses.

The machine sold in skiploads immediately. The cheap and trusty Z80 and CP/M system – together with Amstrad's non-nonsense cost and corner-cutting – had produced a word processing system that cost £399, one thousand or so less than the alternatives. The comparative slowness of the hardware didn't matter for the word processing jobs it was intended to do, where 99% of the time the processor is kicking its heels waiting for the next key press anyway.

Most important, the market everyone had confidently said wasn't there was buying the PCW in droves. Clergymen used it to prepare their parish newsletters; every freelance writer and budding novelist in the country bought one to store their works on disk; students and researchers found them invaluable to produce their essays and dissertations; small businesses had a smart typewriter they could afford for their smart correspondence; even computer hobbyists grudgingly bought it, recognising that the nice big screen and integrated set-up meant they could produce legible, laid out, easy-to-read copy with rather less trouble than their techie machines. As well as being a word processor, it was a good little comms machine, programming machine, general purpose micro...

On the game

Even games started to appear. Ocean brought out *Batman* and it stormed the market, opening things up to the extent that there are now over a hundred games for the PCW. *Hitch Hiker's Guide to the Galaxy*, *Tetris*, *Chess* and *Scrabble* remain the best selling games, though arcade games have never scaled the same heights as *Batman*. Perhaps, for the 'typical' PCW buyer who grew up in the sixties, *Batman* struck a chord. Chords of any type are clearly out on the PCW though, whose music chip is limited to a one-channel single-note mono beep, somewhere around B flat.

The original PCW8256 had one drive and 256K of memory – enough for letter writing – but it

quickly became clear that many people wanted to use more than the plug-in-and-go *LocoScript* word processor that was free with the machine. CP/M, BASIC and a host of utilities (assemblers, debuggers, comms packages, the famous PIP) came too, thrown in almost as an afterthought. But it led to *SuperCalc*, *dBase*, *WordStar*, *Sage Accounts* and dozens of other 'serious' packages coming out.

The machine proved popular with small businesses, and the demand grew for more memory and a high-capacity drive (720K as opposed to the 180K of the 8256). These duly arrived with the PCW 8512, a PCW8256 with the extras inserted in the gaps thoughtfully left in the original.

The major criticisms of the PCW were the slowness of *LocoScript* (which could take as much as ten minutes to go from the end of a very long document to the beginning) and the dot matrix output, which was a bit naff for professional use. The PCW9512 followed with 512K of memory, mail merge and spell check programs, and *LocoScript* 2 – a souped-up version of the original which not only worked faster, but supported any printer in the world. The jokey, no-nonsense and occasionally cynical style of the magazine *8000 Plus* established it as the favourite of PCW owners.

The PCW today is still selling to "vicars and journalists" (the archetypal PCW owners as seen by *Locomotive*) and everybody else, and the machine has generated a whole sub-culture. Most PCW owners have never had a computer before, and don't even know that what they have is a computer; they refer to it as 'my Amstrad' as if oblivious of the several thousand other makes of computer in the world.

And quite rightly too; the PCW is seen as a machine to do a job rather than a toy, and the fact that around 95% of users work exclusively from *LocoScript* bears this out.

Writer's unblock

New software has reduced to a trickle – most of the packages that can be written have been – but the PCW shows no signs of slowing up. It has transformed a whole section of society; people who thought they'd never be caught with New Technology have bought them and found their lives changed, with everything done on their faithful 'Amstrad' – letters, essays, reports, business documents, accounts, newsletters, posters, memos, invoices. Most of us now can't write a note to the milkman without printing it out in NLQ 12 pitch double spaced with one inch margins all round.

Writers and journos especially have taken to it with disbelieving gratitude. See, you can actually change text on screen, save it to disk, and print it out when you like! But behind the wide-eyed wonder at how the latest novel can all fit on a single disk and how *LocoSpell* suggests that 'Said 'Al-Rahmani' should be replaced by 'sandwich', there is an important lesson for other manufacturers. The PCW is not a remarkable machine in itself, but it has sold a million. PCW owners are generally not interested in technology for its own sake, only for what it can do for them. They have spent £500 million to prove it.

Alan Sugar has made several mistakes, a lot of enemies (particularly journalists) but also very large amounts of money, £420 million at the last count. And he's done it by taking the technology to the market in a form the market wants, not by getting caught up in the race to provide faster processors, more expensive software and higher spec machines. New technology has reached a generation of people who would otherwise have dismissed computing as a crazy techie domain, and the effects are here to stay. The triumph of the PCW in the late eighties has been a victory not for Amstrad, but for the ordinary man and woman in the street. ●

Box of dates

- 1984 Alan Sugar visits Tokyo and sees the popularity of cheap personal word processors. Idea of PCW born. Project begins in Autumn with design team MEJ and software writers Locomotive
- 1985 PCW 8256 launched in August to derision from the computer industry who label it a flop
- 1986 PCW 8512 follows in June; sales already through 200,000 by end of the year
- 1987 PCW 9512 launched on September 23rd; all PCWs selling steadily in quantity. £50 trade-in offered on old typewriters for 9512s; ad campaign on TV features 'Professor' Stanley Unwin
- 1988 German 8512s on sale in England in November, shipped over to meet demand, can't take interfaces or mice; Amstrad first ignore the problem, then relent and give free conversion apparatus
- 1989 Sales reckoned by pundits to be over a million worldwide and all models selling as fast as ever. Ad campaign for 9512 restarts

The bandwagon rolls on

The PCW is available in any high street shop

- PCW8256: £349+VAT. Includes keyboard, integrated printer, monitor, *LocoScript* word processing software, CP/M, programming utilities, comms software, etc. One 180K disk drive, 256K memory. Supplied *Mallard BASIC* is excellent implementation with JETSAM commands for writing databases. Expansion port for RS232 interface
- PCW8512: £399+VAT. As above but 512K memory and additional 720K disk drive
- PCW9512: £449+VAT. Daisywheel printer, *LocoScript* 2, mail merge and spell checking software, CP/M and programming utilities, BASIC etc. Single 720K disk drive, 512K memory. Built in printer port. Expansion slot for RS232

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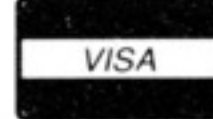
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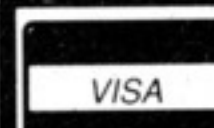
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Mac-sim-ise your ST

Drooling after a Macintosh but with dosh only for an ST? Drool no more – with Hisoft's Spectre 128 Mac emulator you can have the best of both worlds. Andy Storer investigates...

Spectre 128 ● Hisoft ● £129 without ROM, £199 with ROM ● Hisoft ● Tel: 0525 718181

The Macintosh range of personal computers is popularly thought of as providing top-notch, user-friendly software for desktop publishers. Sure, there's a full range of other applications available, but you may as well add a nought to the end of every price quoted for the same package on another machine.

Macs are only famous for DTP, and at this they excel. But even then they're too expensive, the screen's too small and the software a rip-off. You'd save money by flying to New York and importing one. So the release of an emulator to allow you to run all that fabulous software on machines costing a fraction of the price has got to be worth checking out.

After all, a basic Mac Plus with single floppy costs over £1,350; A basic ST, £300. But here we come to the first drawback. *Spectre 128* will only run on STs with 1Mbyte or more of RAM and, despite documentation to the contrary, only those with mono monitors. But even though that's at least £600 for starters plus the £200 for *Spectre 128* itself, you'd still be quids in.

But compatibility and performance are more important than price. You don't want to save £500 only to find you can only run a fraction of the software at a fraction of the speed. On both counts, *Spectre* scores well. Initial tests point to something in the order of a 20% increase in speed, even with the larger screen displays, and a high degree of compatibility. The manufacturers claim it will run all Mac software, except those applications specifically designed for

the 68020-based Mac II. Sounds great! There's only one set-back to all this – and it's major. *Spectre 128* comprises a ROM cartridge containing a set of 128k Mac Plus ROMs, Transverter file transfer programs and *Spectre* emulator disk. Before attempting to get the package up and running you have to transfer all the Macintosh programs you want to run on the ST into a form *Spectre* can read. These must include Mac systems files which the Mac doesn't hold on ROM.

You have to link a serial lead between the two

Life after death?

Spectre 128 is really a new version of the Mac emulator for the ST – *Magic Sac* – released in early '86. This was the first attempt at emulation, and was beset with bugs throughout its versions. *Spectre 128* is *Magic Sac* risen from the dead. Hence the name. You might think the author of the manual to be a little off-world too – some of its passages have to be seen to be believed. Everything from cosmic rays to Neil Young surfaces in the way-out ramblings only true Californian lifestyles can produce. But if you manage to suspend disbelief long enough, you'll find it an informative insight into the world of the Mac.

Hey Mac, A-Max!

Via Entertainment International on 0268 541126, Readysoft is about to release a Mac emulator for the Amiga 500, 1000 and 2000. Unlike *Spectre 128*, you'll have to supply your own Mac ROMs, which'll mean 'talking quietly' to third party suppliers, since Apple are – to say the least – reluctant to part with them. However, *Max* will allow Mac format disks to be used directly during Mac emulation and, ironically, *Spectre* disks too! If you track down 128K ROMs you'll even be able to run *HyperCard* and some 68020 applications.

However unlike, *Spectre* you won't be able to run a hard disk whilst in Mac emulation mode. This is a shame, since on the ST *Spectre's* hard disk access times are faster than those of Apple's own and make disk intensive programs fly along. *A-Max*, though, will stand alone as a Mac emulator, so at £134.50 it should be well worth a look. Full review soon.

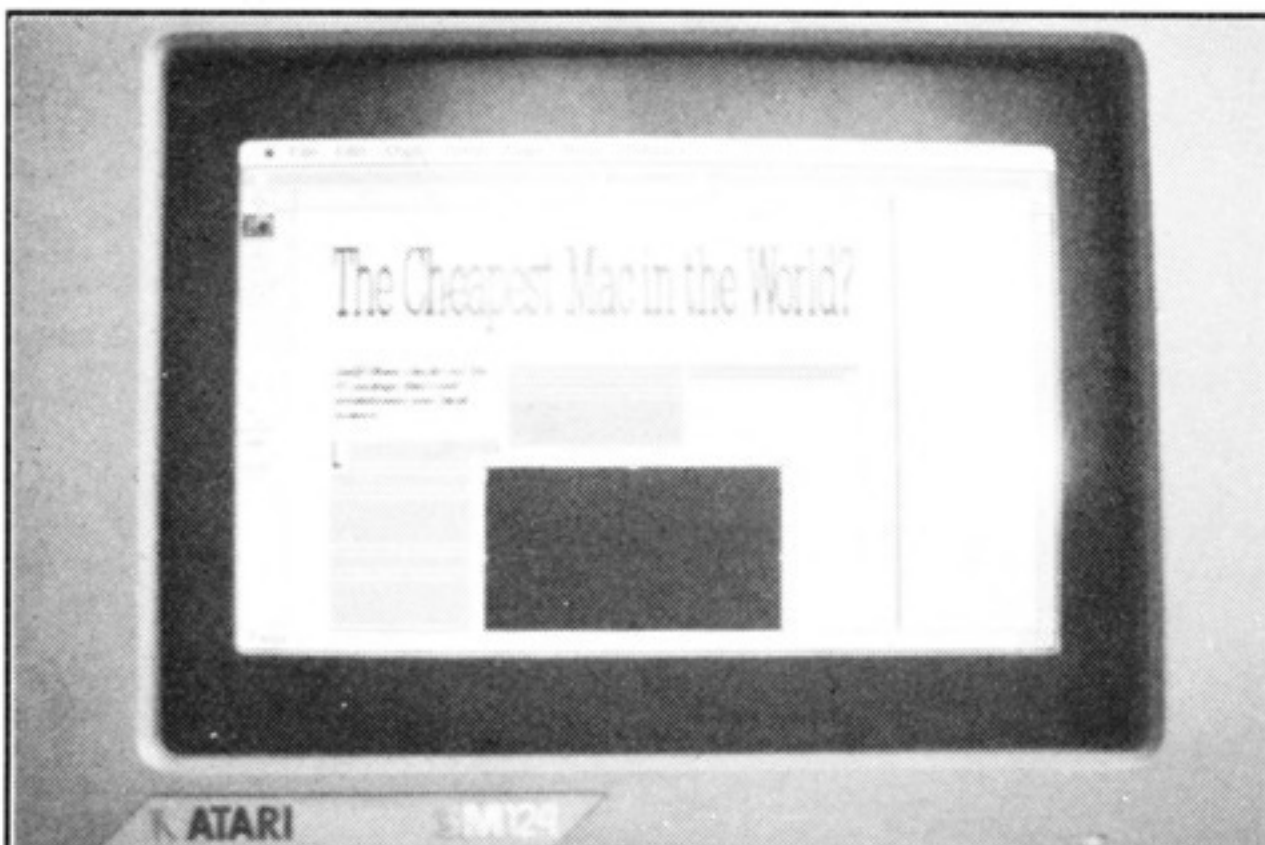
machines, both running the supplied comms software, and wait for what seems like an eternity while the Mac software is ported onto disks previously formatted by *Spectre*. This format can be described as exclusive, since neither the ST or the Mac can read or write to it; it's designed solely as a interim format that will allow an ST running *Spectre* to read Mac applications and data in binary form.

It's here where the problem lies – and will hopefully be addressed in version two of the package. Supposing you successfully port over all your favourite Mac applications and get them up and running, prepare to be amazed at their speed and increased versatility on your ST. You can write some text in *MacWrite* and import it into a DTP package like *Quark Xpress* for laying out with graphics and pictures.

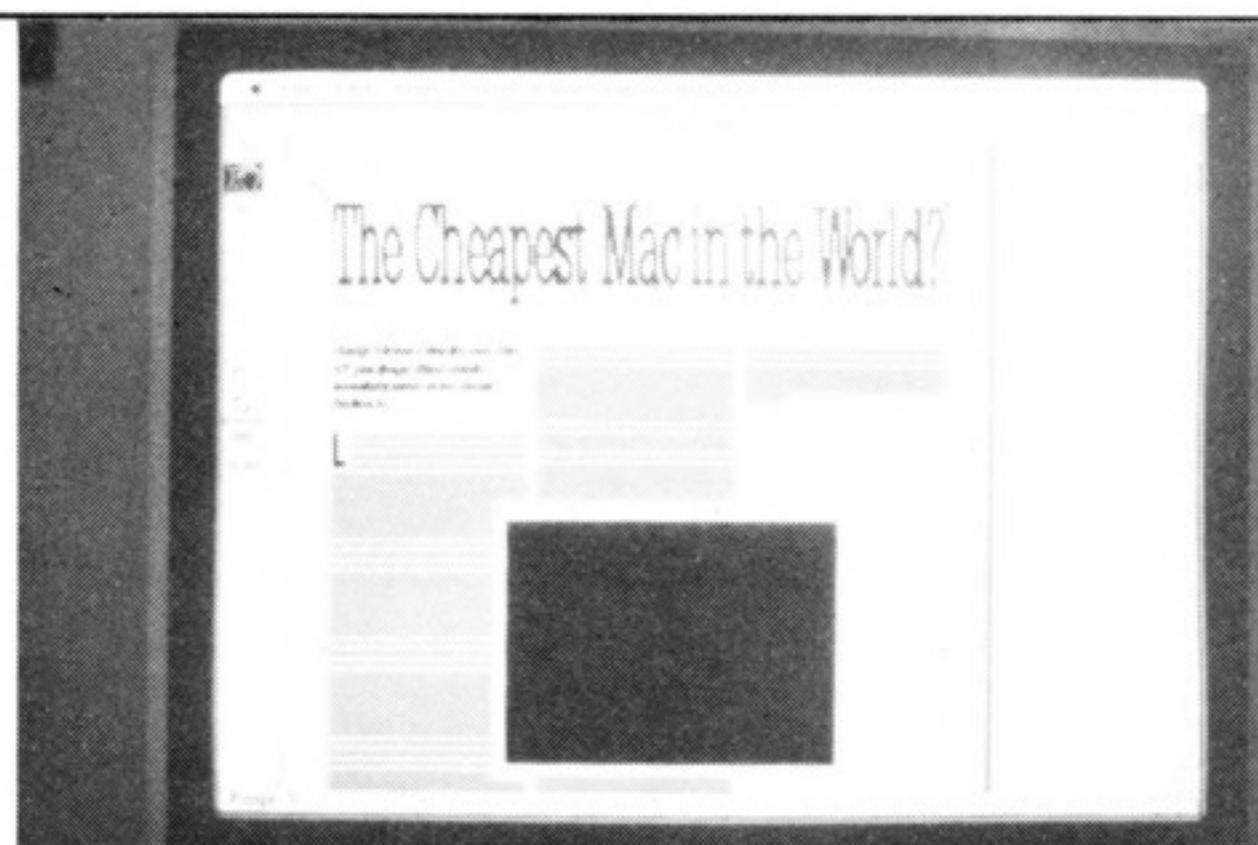
It all works fine. Until you either want to print it out on a dot-matrix printer, which requires additional printer drivers or, crucially, run the same file on a Mac where you know you should easily be able to print it out on laser. Apple Laserwriters won't run off an ST. What you'll need to do is port the file back over a serial link again, as a Mac won't be able to read it straight off.

So without regular access to a Mac, *Spectre's* not a lot of use. But if you already have a Mac and want to expand your operation, then *Spectre's* a godsend. For less than half the price you could set up a series of STs as simple dumb terminals to emulate as big a Mac network as you require.

★★★★



• Quark XPress running on the ST: The likeness is uncanny, and speed is slightly up on the Mac Plus



• The same application on the Mac II. Full laserwriter compatibility and much faster – but also upwards of £5,000...

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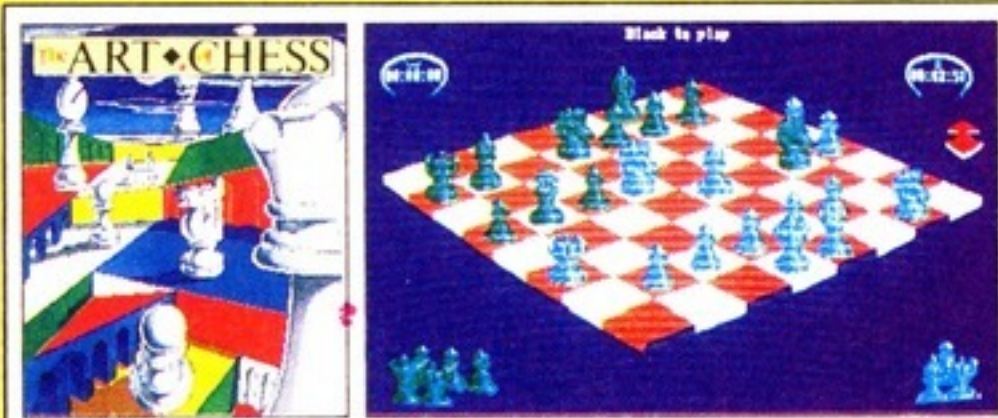
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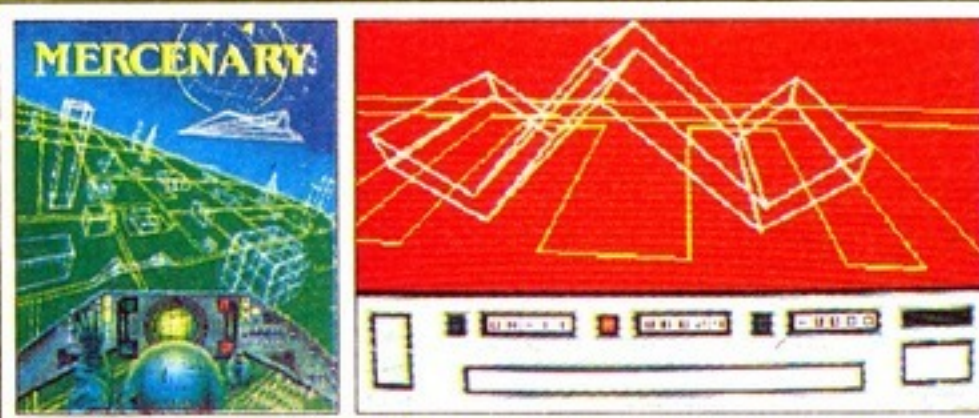
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Plucked from the cornucopia of computing products, terms, companies and people comes the Express A-Z Guide. Over the next few weeks it will build into a computer encyclopaedia, bursting at the seams with definitions and information.

But be warned. This is no dictionary-dry effort. The Express A-Z has not been set up to produce tediously literal entries. Instead, we're evaluating the products and companies, and placing them in an overall computing context.

Of course you have to draw the line somewhere with any such listing – even if it does run from now until the autumn. Inevitably, there have been exclusions. But we've focused on the most influential companies and individuals, the leading and/or biggest-selling products and the most frequently used computing terms.

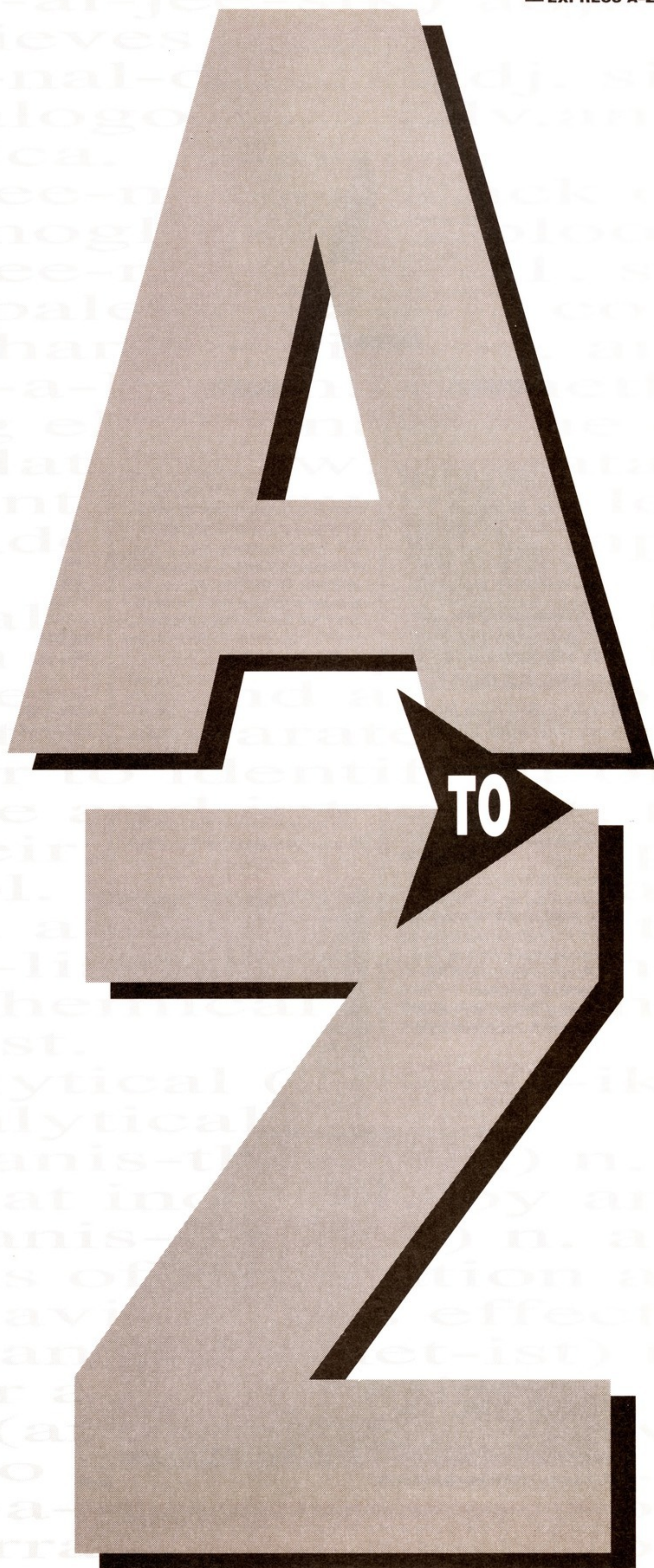
From the vast array of games, we've selected those that have a place in the history of computing: the first of a genre, the overall classics, the year's biggest-seller, the genuinely innovative – that kind of thing.

Turn the page for the first instalment of the Express A-Z. Compiled by Jerry Glenwright with help from sundry Future Publishing colleagues, you'll find it informative, entertaining and occasionally even exasperating...

HELP US HELP YOU

If you think we've missed out any vital terms or firms or names or games or hardware or software, then write and tell us. You could win £10.

Send in three entries with 20-30 word definitions which you think we should've included. The best trio will be printed each week in Express, with the tenner going to the writer. Send your entries to Express A-Z at the usual address. Get reading, get thinking, get writing – and who knows? You might get lucky...





ACORN (Co.): Founded at the turn of the decade by Chris Curry and Hermann Hauser, the company succeeded in the market place due to its marriage to the BBC, who pushed – nay, still pushes – the 8-bit micro developed by Acorn for all its worth.

Based on the Atom – the first machine designed by the company – the BBC computer was shipped with 32k RAM, a 6502 processor and an excellent (for its time) version of BASIC.

Acorn consolidated its success with the launch of the Master, a BBC computer in drag – heavily padded – by selling it into an already established educational market.

Acorn shipped a large quantity of units, somehow contrived not to be profitable and was bailed out by Olivetti in 1985.

In more recent times the company has decided to pursue the 'leading-edge' by designing and releasing the Archimedes, a machine employing the RISC (Reduced Instruction Set Chip) as its CPU and offering speed and copious processing power.

Unfortunately, the machine remains obscure due to its monstrous price.

ACORN ARCHIMEDES (C):

Acorn's attempt at high technology. Released in 1987, the Archie

employed a RISC – Reduced Instruction Set Chip – offering raw processing power unthinkable just a few years ago, coupled with lots of RAM, a monitor, mouse and windowing environment.

Although the machine has a reasonable following in the educational sector, the Archie remains obscure – due to its high price – in the home and small business market.

ACORN ELECTRON (C):

The Electron was designed to be an affordable BBC-like computer for the home market, but suffered from incompatibility problems with the BBC machine, a lack of software and a high price.

The machine is all but dead outside the occasional Alternative Micro Show.

ACOUSTIC COUPLER (T): An early type of modem. The acoustic coupler has a rubber cup placed at either end of a 'box' of controlling electronics. The ear and mouth piece of a telephone handset is placed into the cups and a high pitched tone – representing data – is passed between the modem and telephone. See also **modem**.

ACTIVISION (Co): Major league US leisure software publisher which also

owns adventure kings Infocom and publishes the likes of System 3. Made inconceivably high mountains of cash from the Atari VCS days, and then plummeted just as inconceivably. Publisher of Ghostbusters, the biggest-selling game in the UK, which not only topped the charts in 1984 but had the effrontery to bounce back as a budget game in '88. Activision implausibly metamorphosed into Mediagenic.

ADA (L): Third generation programming language originally devised for the American department of defence, and named after Ada Lovelace the daughter of Byron.

Ada is a structured language similar to Pascal which is used in embedded systems. Here is a fragment of Ada.

```
with SQRT, SIMPLE_IO;
procedure PRINT_ROOT is
use SIMPLE_IO;
Z: FLOAT;
begin
get(Z)
put (SQRT(Z));
end PRINT_ROOT;
```

Lovelace is often touted as the first woman programmer due to her association with Charles Babbage, and her definition of programming logic.

ADDRESSING (T): The process by which a CPU locates and accesses data from RAM or ROM memory.

ADVENTURE (GG): Generic term for computer games in which the player adopts the role of adventurer and explores artificial worlds usually in search of women – the genre is almost entirely sexist – and treasure. There are opponents in the form of Goblins, Trolls, Dragons etc., who usually have to be destroyed in order to succeed.

The adventure game used to be exclusively text-based, but increasingly, pictures and interactive graphics are used. See also **arcade adventures**.

ALGOL (L): An acronym for ALGOrythmic Language, a third generation programming language which is notable for its evolution into Pascal and Modula-2.

AMSTRAD (Co.): The name is an acronym for Alan Michael Sugar TRADING. The company was formed in 1968 by the aforementioned Mr. Sugar and exhausted the profit gleaning capabilities of a number of products – namely car aerials, hi-fi and televisions – before settling on computers as a way to squeeze even more mazuma from Jo(sephine) Public.

Amstrad's first attempt was with the CPC464, a machine with a built-in cassette recorder for easy loading and saving, and bundled with a mono or colour monitor. At the time, this was considered innovatory and the

company's products have followed in a similar vein ever since (Express uses irony – allrrrrright!).

Never overly worried with procuring state-of-the-art machines, the company appears to be on a down-swing profit wise. But everything is relative: Amstrad is nonetheless one of the UK's most profitable companies.



• The Amstrad HQ in Brentwood

AMSTRAD CPC464/664/6128 (C): The range of machines launched by Amstrad as its entry into the computer market.

The CPC464 was the first, released on the 11th April 1984 in colour and mono versions and with a built-in cassette recorder as standard. It was quickly followed by the CPC664 – a 64k disk based machine – released in May 1985. Then came the CPC6128, which was almost the same machine but with 128k memory.

The CPC6128 effectively destroyed the market for the CPC664 and the machine was peremptorily dropped by Amstrad: to the considerable annoyance of 664 buyers.

The CPC range has sold in great numbers – 2,000,000 in late '88 – and has continued to be popular both here and in Europe.

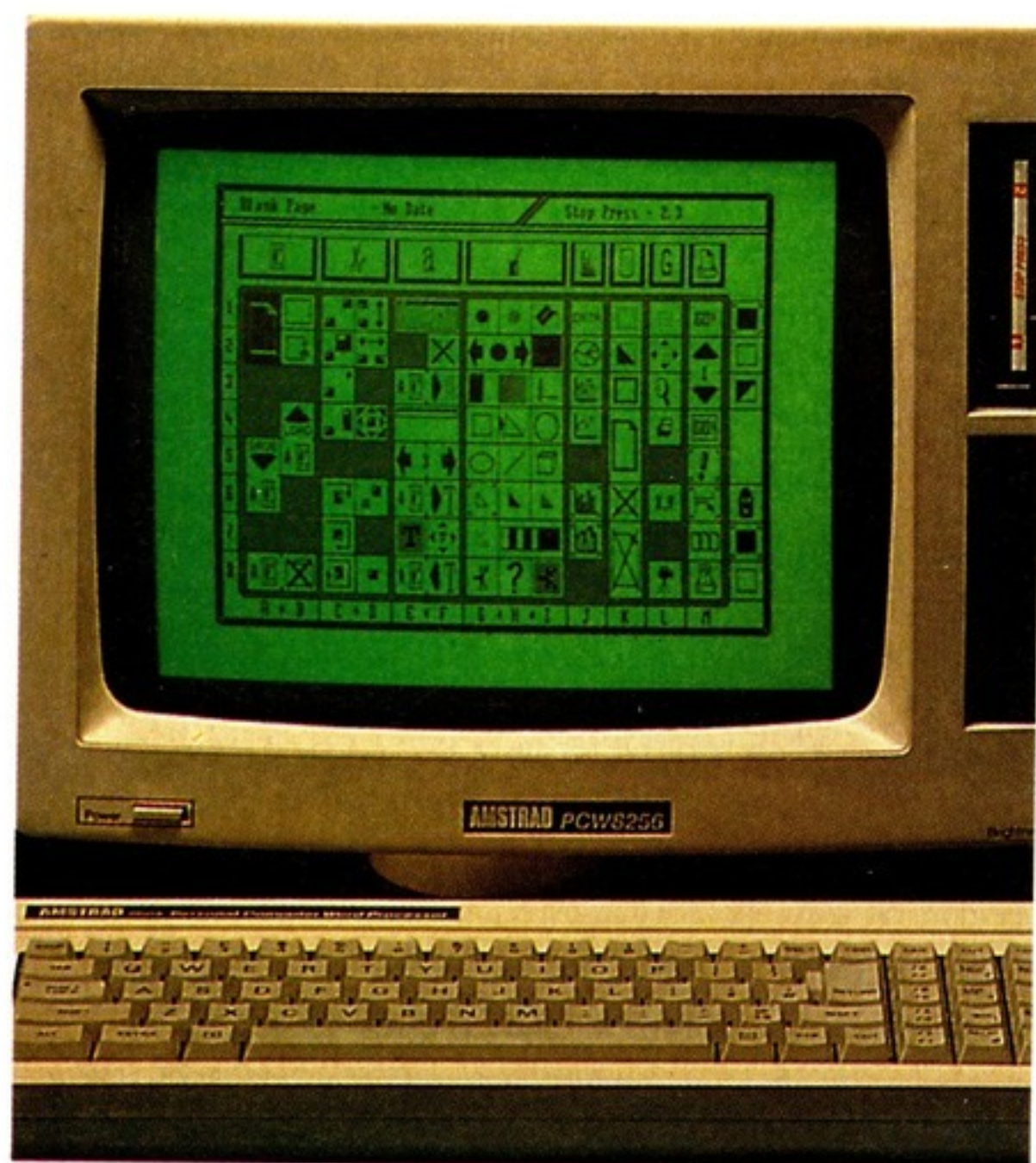
AMSTRAD PCW

8256/8512/9512 (C): Amstrad recognised a possible source of exploitation in the market gap between the home and business computers, and produced the PCW range of machines. Determinedly non high tech, Amstrad adopted the archaic CP/M operating system and the Z80 CPU, then with a converted television and non-standard disk drive, bunged the unwholesome conglomeration into a flimsy plastic case and off-loaded this spawn of Beelzebub onto a computer-unsophisticated public who wanted a computer but was unsure of what to buy. The range duly sold millions.

The machine is shipped in three guises: the 8256 (a single drive, 256k machine); The 8512 (same machine but with 512k of memory and two



• The Archimedes: 32-bit technology from Acorn



• The Amstrad PCW: Lo-tech, but hugely successful

drives); the 9512 (an attempt at giving the PCW some credibility, with a paper white monitor, 512k of memory and two drives).

The machine continues to sell in enormous quantities, much to the chagrin of anyone with a modicum of computer architecture knowledge. But to the vast majority of PCW owners, tech spec talk is an irrelevance.

AMSTRAD PC

1512/1640 (C): With both the CPC and PCW ranges selling in large quantities, Al-baby (as he is popularly known) decided that it would be a good idea to get into the low-end business market by offering an IBM-PC compatible machine. The PC1512 was born. It possesses 512k memory, MDA/CGA graphics, single or twin floppies and mono or CGA colour monitor.

Despite being plastic – in both the physical and sensory sense – the machine sold in enormous amounts and Al-baby had another winner.

The range was extended with more memory, hard drives, and better displays, and for the first time the ordinary person in the street could afford to compute on an industry (almost) standard.

ANCO (Co.): Software house associated with the peelers – a computer game genre involving games of chance (usually poker) and unfortunate women shedding their clothing as a reward (!) for winning.

ANALOGUE (T): The representation of some abstract figure using a continuous variable e.g. the sweep hands of a clock or watch provide a variable, but continuous, representation of an abstract figure (time). See also **digital**.

ANALYST (T): Person responsible for the definition, development and

installation of computer programs and systems. Analysts use various methods to ascertain the needs of prospective computer users, chiefly time and motion studies, questionnaires and 'dry-running' paper systems. But whatever the method, they tend to be expensive.

APL (L): An acronym for A Programming Language. A third generation language used to solve arithmetic

problems. Used like an advanced calculator.

APPLE (Co.): Founded in 1975 by Steve Jobs with fellow Californian Steve Wozniak. The company responsible for the Apple 8-bit range, the Lisa and the Macintosh and a very large slice of hype.

From the start, Jobs was the guiding light and guru of the company, using large-scale expensive advertising in all areas of the media to get his message across that the future of computing lay in small

systems (as opposed to the sprawling mass of IBM).

It was his idea to implement the user interface of the Mac – thereby opening a veritable Pandora's box of windowing environments.

ARC (T): Widely used public domain computer program, which concatenates text and program files by a significant amount, thereby reducing storage needs. See also **public domain**.

ARCADES (GG): The source of the coin-op conversion. Seedy buildings containing a change-giving booth in scratched plexi-glass, a guy aged about 60, unshaven and wearing a vest, counting a *very large wad of grubby notes, and a dishevelled, blonde-haired woman talking to herself and making desultory sweeping motions with a hairless brush. A large group of hostile kids gather around the only machine worth playing on. Ya still wanna go, right?

The word arcade is also used as a generic term to describe games using interactive colourful graphics and lots of sound, wherein the player chases around, killing, collecting and amassing points.

ARCADE ADVENTURES (GG): Generic term describing games incorporating elements of both shoot-'em-ups and adventures, usually involving the adventurer rescuing damsels (the genre is almost always sexist), collecting cash and exterminating the opposition – the latter playing a large part in the game.

ARNOR (Co.): Software house responsible for publishing *Protext*, a

word processing package whose virtues are much extolled in the computer media and which is available across a wide range of popular machines.

ARTIFICIAL INTELLIGENCE

(T): Also known in abbreviated form as AI. This expression is used to describe the process of studying and advancing the 'intelligence' quotient of computers, by getting them to perform simulated thought processes, and to react and adapt to outside stimulus.

ASCII (T): An acronym for American Standard Code for Information Interchange. A 7-bit code which facilitates the transfer of data between computers and peripherals.

ASHTON-TATE (Co): Founded in the mid '70s by Wayne Ratcliffe – a former employee of the jet propulsion laboratory based in Pasadena – he developed a database product originally called *Vulcan* (after the home planet of the Star trek character Spock).

After meeting George Tate, the pair decided to form the company known as Ashton-Tate and renamed *Vulcan Dbase II*.

The 'ashton' of Ashton-Tate doesn't exist, but was used as a way of taking the company name up-market.

ASSEMBLER (L): A program that converts written instructions (assembly language) into a form directly understandable by the CPU of a computer. See also **assembly language**.

ASSEMBLY LANGUAGE (L): Second generation language used as a replacement for machine code. Each assembly language instruction is converted (assembled) by a program known as an assembler, into a code directly understandable by a computer. See also **assembler**.

ATARI (Co.): Founded in 1974 by Nolan Bushnell the creator of the game Pong, and bought up by Warner Brothers. Atari made a lot of money in the late '70s and early '80s with consoles and 8-bit computers, the 400 and 800.

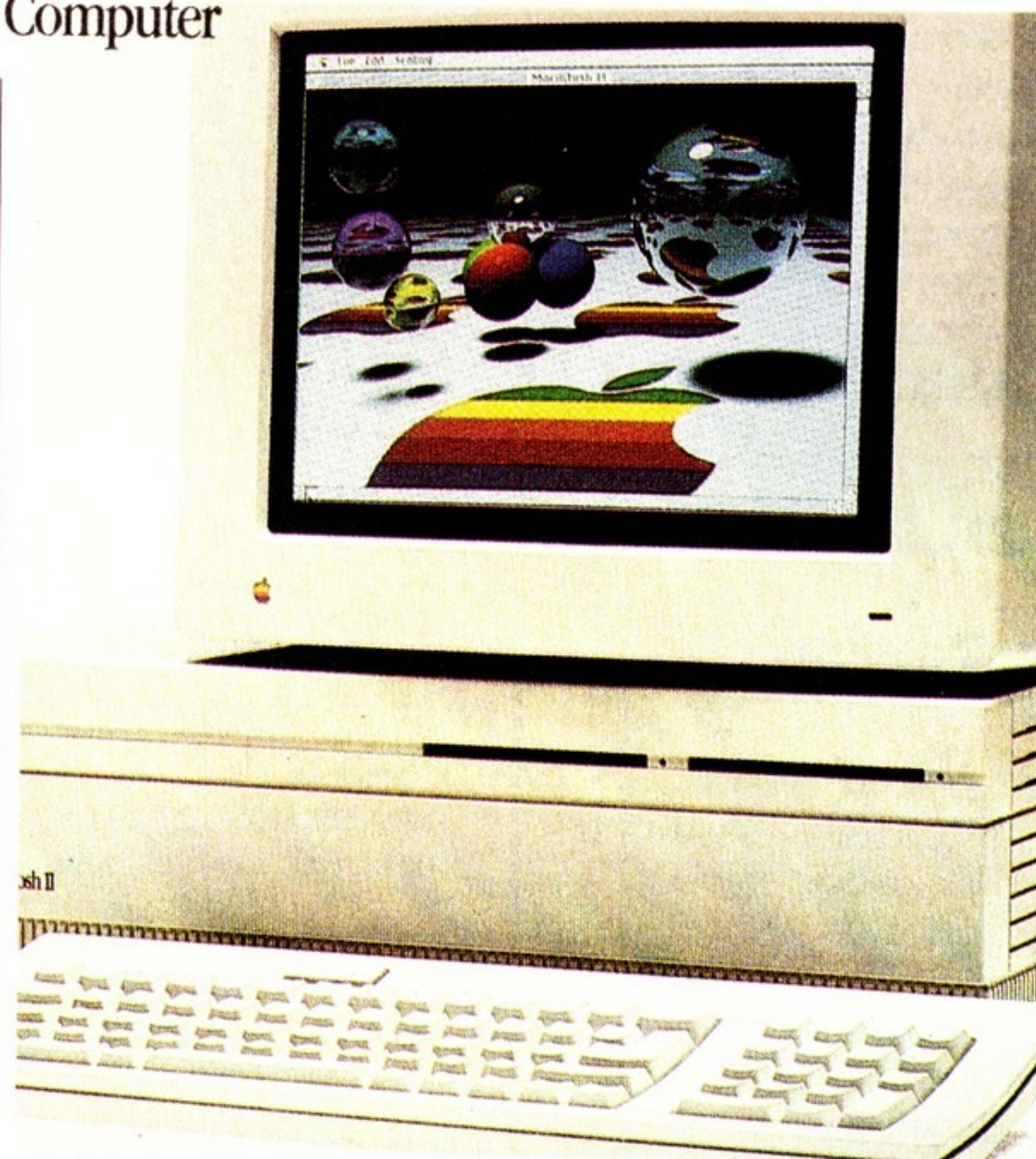
By the end of 1983 the Brothers Warner had a flop on its hands – Atari was losing megabucks – and so it (Warner Bros.) made a little present of the purchase price of Atari to Jack Tramiel, erstwhile owner of arch-rival Commodore.

Under the guiding light of the Godfather – as big Jack is popularly known – the machine range was revitalised with machines such as the XL, XE and ST.

The fortunes of the company went into a massive upswing, allowing Atari to become one of the golden 500 top earning companies in the world. It has slipped back of late, due in part to the renaissance of Commodore.



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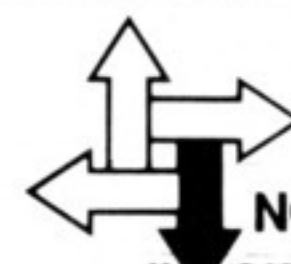
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ST

You're probably sick to death of hearing about hard drive systems for the ST... that's tough, 'cos here's more on the subject. How would you react to the notion of a hard drive for under £200! Staggering, huh? The drive would only have 7.5Mbytes of storage and be about the size of an external 3.5" floppy drive. Before you rubbish the idea, consider how much an external 3.5" drive costs. Circa £100? Yes, and how much can you fit on 3.5" disk? Approximately 720K. Being able to store 10 times the information and having it at your fingertips would be heaven.

I know I'd have a use for such a drive, but would you? If you're interested – even slightly – pick up the phone, dial 0272 574569 and ask to speak to Gary Drake at Tempest. Alternatively write to **EOS House, 145 Staple Hill Rd, Fishponds, Bristol, BS16 5AG**. I've already told Gary why such a drive would be a good idea (because I want one!); now you tell him why Tempest ought to produce the thing. Do it!

Also new from Third Coast is a Bernoulli drive for around £799. This uses removable 44Mbyte disks which costs £100 each. The Bernoulli drive has a 40ms access time which is on a par with fast hard drives. More from Third Coast at **Unit 8, Bradley Hall Trading Estate, Standish, Wigan, WN6 0XQ** (0257 426464).

Drives without Frontiers

Who said you were being ripped off buying a Supra hard drive from Frontier in the days before the price cut? Okay, so it was me. Slapped wrist time. Supra drives have always been renowned for their quality, and Frontier

Andrew Bennett, Frontier's managing director, explained the recent £100 price cut on the 30Mbyte drive: "there are several reasons: market forces, volume sales and better deals from Supra in the States. More people are buying hard drives which means higher production runs and consequently lower production cost per unit. Our prices are governed very much by what sort of deal Supra is prepared to offer us - recent negotiations with Supra have been favourable for us."

Contact Frontier at PO Box 113, Harrogate, North Yorkshire, HG2 0BE (0423 530577) if you're interested in the Supra range of drives for the ST.

If your guarantee hasn't expired or you fear for your life, don't attempt this. Recent Atari monitors have controls at the back to alter the position and size of the screen; not true with older monitors. There isn't usually any need to alter your monitor, but you may prefer working with a full-size screen. Here's how to carry out the operation.

Unscrew the back of the monitor and peer inside. You should see a thick black wire running alongside the tube. To the right you will see three cubes with slots for taking a screwdriver. On them, in very small print, you should see the words 'horizontal hold', 'horizontal size', and 'focus'. Twiddle the dials until you have a screen that you're satisfied with. Take care!

● Kuma has revised *K-Scope* and *K-Spect*. *K-Scope*/*K-Spect* consist of hardware and software enabling the Atari ST to be used as an audio frequency oscilloscope or a spectrum analyser respectively. The major update is provision for saving data for later display and use. Both products cost £199 excluding VAT; *K-Spect* is available as a software add-on to

● Gate Seven Computers of 6A Gwendwr Rd, London, W14 9BG (01-602 5186) has released an enormous selection of fonts for use with the *Signum 2* document processor distributed by Signa. Fonts available include Arabic, Bengali, Farsi, Greek, Gujarati, Hebrew, Hindi, Ladakhi, Marathi, Nepali, Punjabi, Russian, Sanskrit, Tibetan and Urdu. £25 per font if you're interested.

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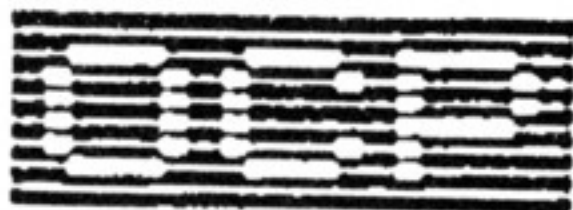
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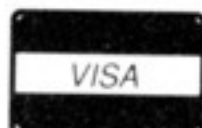
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PC UPDATE

Look and feel

Last month Apple Computer won the first round in a long-running legal battle with Microsoft and Hewlett Packard over the similarities between the Mac interface and the Windows graphics environment. The ruling so far covers only the terms of the original Apple licence to Microsoft, not the question of copyright. If the copyright ruling goes their way as well, though, it would set a dangerous precedent against different software products with a similar appearance. It also seems to me to be blatantly stupid!

Take the analogy of a car. With few specialist exceptions, all cars have four wheels, seats facing in the same direction,

three control pedals (alright, two for automatics), a steering wheel and broadly similar controls for lights, heater etc.

Now, I've no idea which company was the first to put indicator controls on the end of a steering column stalk, but I do know that it has become standard practice for these controls to be there. The control of this aspect of a car is common to probably 95% of all cars. Yet it could be otherwise - they can have indicator controls on little switches in the middle of the dash, set into the steering wheel itself or on dash mounted protuberances. Wouldn't it be a touch awkward if the manufacturer of the first stalk-mounted indicators sued all the others and won on a 'look and feel' basis. Guess who would be the loser? Guess who will be the loser if Apple wins through?

Out and about

Isn't it nice to get out of the office for a bit and feel the wind in your hair and the call of the Open Road up your nostrils? Following this call, the other day we decided to take a trip to Beer (South Devon, not down the pub)

and visit the newly installed Shareware Marketing. Their offices can most politely be described as bijou, but quite fitting to the quaint feel of this small coastal village of tea shops and tea shops.

Shareware Marketing has the feel of being about to boil over all the time, with its five staff flipping from phone to phone and order to order. The entire disk library takes pride of place in the middle of the room and master disks are fetched from this for duplication. Steve Lee used to use a worm drive as his master, but the current rate of updates to shareware products has led him back to floppies, which can be updated much more easily.

The other main change in the shareware market is that shareware itself is taking on a much more professional image. Going are the days of 'alternative' software, with orders coming in regularly from national corporations, and the software itself becoming better packaged and more like its 'commercial' counterpart.

Taster

Lap-Link is great. More about it next week.

Simon Williams

Protecting your environment

A few weeks ago I included details of a DEBUG routine which produces a short machine-code file to reset your PC from within a batch file. The idea was to set up a series of different environments tuned to particular applications - one for word processing, another for spreadsheets, a third for CAD etc. The way it worked was to copy specially prepared system and batch files into the AUTOEXEC and CONFIG files and then reboot to make them take effect.

I've been making use of this technique in setting up my 386 (which now has it 28ms hard disk; thanks Watford). I started by writing the system and batch files for each environment; let's take GEM as an example. The main consideration when running GEM is to remove any memory-resident programs which would reduce the main memory available to it. I therefore wrote a batch file free of TopCopy Plus and TopDos, my main two TSRs, but needed a second batch file to copy the special batch and system files into AUTOEXEC and CONFIG. There's no reason, though, why the same GEM batch file can't serve both purposes. Have a look at this one:

```
echo off
cls
if "%1"=="RUN" goto gemrun
echo SET UP FOR GEM
echo This routine will reset the machine and remove any TSRs from memory.
echo Check if you have any unsaved text files in TopCopy Plus before
proceeding.
echo.
echo OK to continue? (y/n)
would
if not errorlevel 1 goto end
copy c:\sysfiles\gem.sys c:\config.sys
echo C:\BATCHES\GEM RUN > c:\autoexec.bat
warmboot
:gemrun
prompt $p$g
path c:\topdos;c:\msdos;c:\utils;c:\topplus;c:\batches;c:\d:\e\;
SUBST G: D:\GEM
RAMBIOS
KEYB UK,,\MSDOS\KEYBOARD.SYS
MOUSE
g:
call gem
c:
copy c:\sysfiles\confcopy.sys c:\config.sys
copy c:\batches\execocopy.bat c:\autoexec.bat
WARMBOOT
:end
```

This isn't as complex as it looks. The file's called GEM.BAT and is called by typing its name with no parameter. It first reminds me to save any text file in TopCopy, which would otherwise be lost, and uses a simple machine-code utility, WOULD, to return an errorlevel for a y/n answer (WOULD is included on the May PC PLUS SuperDisk). If all is OK, it copies the special system file into CONFIG.SYS and overwrites the contents of the current AUTOEXEC.BAT with an instruction to run itself, but this time with the parameter RUN.

With this parameter, the first part of the batch file is skipped and the second part sets up the environment and runs GEM. When the GEM session is finished, the batch file takes over again and copies the original system and batch files back into CONFIG and AUTOEXEC, from copies kept in the BATCHES sub-directory. It then reboots and everything is back to normal.

AMIGA BLIT

Money makes the world go round

You know, it's a tough life being a journalist. Take last Wednesday, for example; there I was minding my own business while typing away frantically on my keyboard, when all of a sudden I'm thrown on an express train to London with only a half-eaten press release to guide me to my final destination.

The reason for my little excursion was to attend the official launch of Psygnosis' latest Amiga mega-blast, *Blood Money* (the promise of free alcohol 'on-tap' had absolutely nothing to do with it whatsoever!).

There we were, a motley crew consisting mainly of journalists and programmers, all packed into a little room with a bar in one corner and a group of Amigas in the other. Guess which got the most attention? It's obvious really, Amigas are far more fun than enjoying a nice drink at someone else's expense, everyone knows that!

After a certain member of the journalistic trade had finished sneaking large amounts of After Eight mints into his coat pocket (no names named, he knows who he is!), it was down to the more serious business of the day; to get a good look at *Blood Money* and other new projects coming soon from Psygnosis.

Blood Money is the latest masterpiece from ace programmer Dave Jones, author of the highly acclaimed shoot-'em-up *Menace* (with graphics from the equally skilled mouse of Tony Smith). Dave and Tony, collectively known as DMA Design, have been working on *Blood Money* for over eight months, and the final product is most certainly something very special indeed. The game features over 1 Megabyte of graphics, 250K of music and some of the largest and fastest moving sprites ever to grace an Amiga screen. Suffice to say that if you miss this game, you are going to be very sorry indeed.

I asked Dave what his next project was to be and I received two answers. "A six disk mega shoot-'em-up with the largest sprites you've ever seen" and "A very bloodthirsty hack and slay game that will leave even *Sword of Sodan* for dead." Whatever DMA Design produces, you can be sure it's going to be well worth waiting for!

The other game coming soon from Psygnosis which is worth a mention is *Beast*. The game, programmed by Reflections, looks and plays in a similar fashion to the arcade

hit *Rastan*, but what sets *Beast* way above the competition is its superlative graphics and sound. The game uses the copper chip to allow up to 128 colours on-screen at the same time and the 13 levels of parallax scrolling have to be seen to be believed; the sound of jaws hitting the floor could be heard for miles!

Let me at it!

Blood Money certainly sounds like being one hell of a game, doesn't it! How would you like to get your hands on a completely playable demo version for absolutely now? If you're interested, then check out the next issue of our sister magazine, *ST/Amiga Format*, and then judge for yourself what a masterpiece of programming *Blood Money* really is!

Sampling Samplers

While all the other sound sampler manufacturers have been saying how great their particular wares are, probably the most significant sampling software release on the

Time For A Quick Tip?

Space is, as always, our worst enemy, but there's just enough space to squeeze this small tip for Daley Thomson's Olympic Challenge into this week's AmigaBLIT. The person to thank for this excellent tip is a certain Joan Brolosh.

To start on any event with 3 cans of Lucozade, do the following. When the high score table appears, type in HINGSEN-J and press [DEL]; the high score table will now have the heading 'Demo'. Now type in 'J' and press [DEL] again and the table will change to 'Mega-Demo'. You can now press F1 through to F10 to start on the relevant event with full energy.

Amiga seems to have slipped by almost unnoticed. The product in question is the latest release of Aegis' well received *AudioMaster* sampling software, *AudioMaster* version 2.

AudioMaster is only the software side of your ideal Amiga sampling setup, so you'll still need to buy the sampling hardware (check out *FutureSound 500* if you don't already possess a sampler). But what *AudioMaster* does provide is all the tools that you could possibly need to allow you to grab and manipulate sampled sounds.

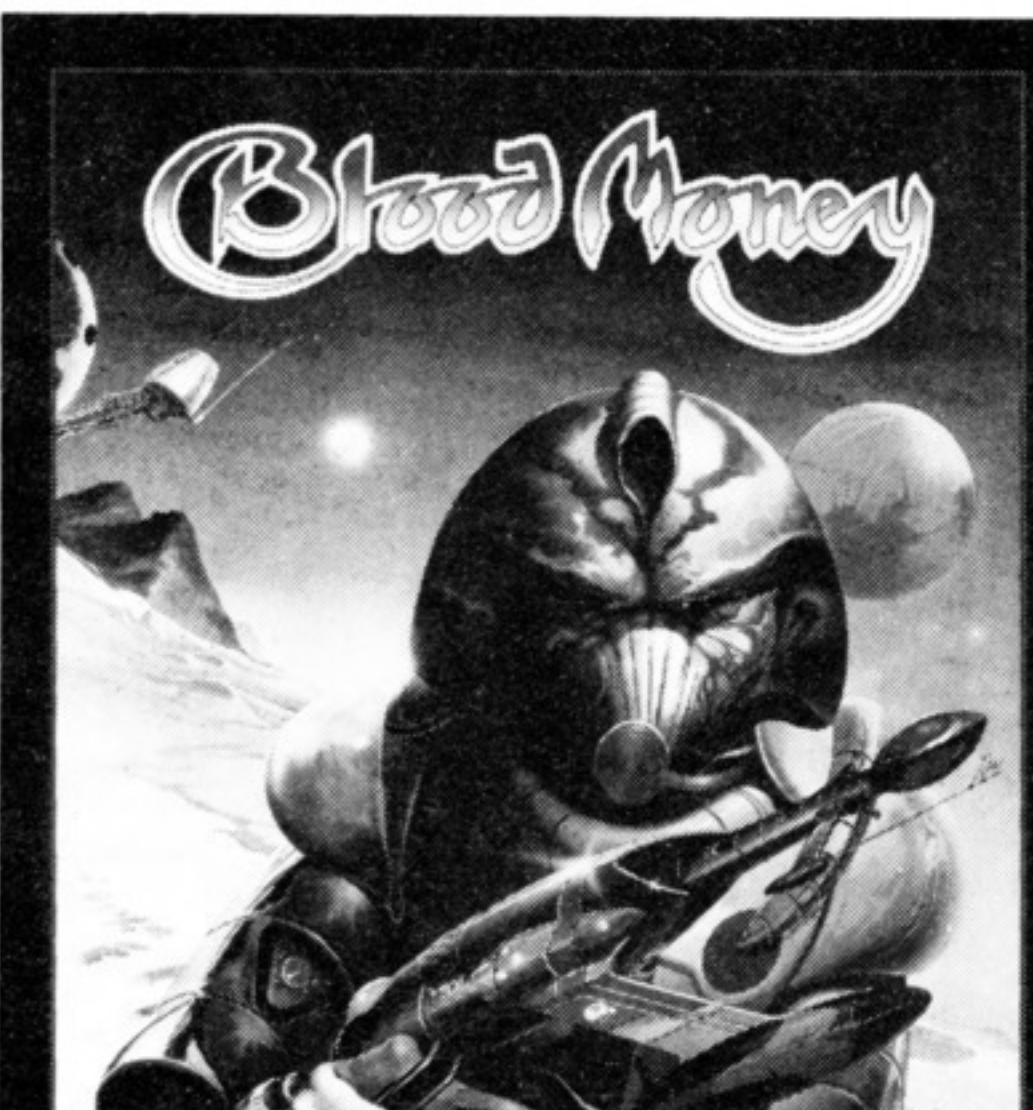
"What's so special about *AudioMaster 2*?", I hear you ask. Well, while other manufacturers have been trying to impress you with maximum sampling rates of 29 KHz, Aegis has somehow managed to raise its maximum sampling rate to a staggering 44

KHz (don't asked me how they've managed it, I'm still baffled!). What results are crystal clear (but memory gobbling) samples.

Unfortunately, anything sampled at a rate of greater than 29 KHz is only really of use within *AudioMaster 2* as no other packages yet support playback rates of greater than about 35 KHz.

The Amiga still has a very long way to go before it can even start competing with machines such as the Synclavier and Fairlight, but with *AudioMaster 2*, studio quality sampling on the Amiga is finally a reality.

Jason Holborn



• Psygnosis' *Blood Money*; Miss this and you'll be sorry

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Less is better

Good news for anyone who needs to improve their standard and style of writing - which obviously counts me in. The Spectrum's only thesaurus - *Fastword* - has just had a definitely-not-stingy £5 sliced off its price.

According to publisher Jim Bruce, whereas *Fastword* appears to beat its printed counterpart, for speed especially, he points out that when looking up more than one word or when loaded from disk it seems to be classed as a little overpriced. Hence the new improved price of £7.95 (inc P & P). It's a heartening and rare occurrence for anyone in the computer industry to admit they have overpriced a product and are prepared to remedy it, so hats off, pats on backs and other displays of respect to Bruce Publishing! Why can't Amstrad be as sensible?

Find the makers of *Fastword* at 72A Lawe Road, South Shields, Tyne & Wear NE33 2AJ. And for an in-depth review of *Fastword* seek out issue 14 of *Express*.

Picture this...

I need someone to do me a favour. After all I've done, I think you owe me that much. Recently, a few letters have arrived wanting to know where you can get a circuit diagram of the Spectrum from. Investigations so far have drawn a blank. Not unsurprisingly, Amstrad didn't know anything about it (although one employee said he had heard of the Spectrum once or twice before). If you can help, write to the address at the end of the column and gain infinite Brownie Points.



• Have you got a circuit diagram for the Speccy? Amstrad hasn't...

...and this

Express received a letter from Softcat t'other week. It was a mite dismayed at the absence of its *Animator* utility in issue 20's *Art Attack* feature, particularly as arch rival package - *The Art Studio* - was mentioned. For some strange reason, probably a distinct lack of the old jangling and folding stuff, I never got to see this when it was released at the same time as *The Art Studio*.

Softcat has been wise enough to come up with a +3 version which I've become briefly acquainted with and thought you might like to know about.

As you're all Spectrum owners and therefore intelligent, you should by now have guessed that *The Animator* can do at least one thing other Speccy art utilities can't do, and that's animate. It can still be used as a standard drawing program and has features usually found in this kinda thing, like different types of brush, shape drawing and textured fills.

The standard screen drawing of this program is not as versatile and user-friendly as, say, *The Art Studio*, so if you want a straightforward paint package, you'd be better off buying that. However, if you're into extras, this package can offer the computing equivalent of furry dice, go-faster stripes and

"My other car is a Skoda" stickers.

Included in the package is a total of four useful utility functions that were in some cases originally sold separately. What are they? Well, first there's a Print mode which allows you to stretch, reverse, distort and generally mess about with text. Also, there's a stand-alone program plastered with the word "Free" on the packaging and called the *Poster Machine*. This basically allows you to turn masterpieces into posters by printing

One of the best

Don't ask me why, but I've been in a nostalgic mood all week. I've abandoned some of the latest software to come my way and have instead been playing some of the all-time faves. The British Museum would be interested in some of the software I've got; Atic Atac, Jetpac, 3D Starstrike, Ant Attack and Match Day have all been loaded.

Through this extensive testing, I've come to the conclusion that Elite is one of my favourite games ever. I know a lot of people think it's overrated, but I love the game. It's technically very good, with B & W graphics more atmospheric than the ST version's jolly colours and the gameplay has been tweaked to perfection. In short, it would be my Desert Island Disk...er, cassette. I could even use the lensloc to start a fire.

How about you? What are your all-time favourite games and why? If that's too heavy, let me know which game you enjoyed most last year. Send this and everything else Spectrum-related to SPEX, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

them out in long strip sections. Next up is a font creator which does everything you'd expect very nicely indeed. The real reason for considering *Animator* over the other art utilities available, though, is the sprite designer. With this and a smidgen of talent you can design your sprites using the standard drawing screen, select them, store them and animate. A game created using this process is included on the +3 version and gives a taster of what you can achieve with skill, imagination and a following wind.

With this new +3 version of *The Animator* and the re-release of *The Art Studio*, we're seeing something of a reawakening interest in creative software. What I would really like to see is a new art package - there hasn't been a new one since '87 or thereabouts. If anything's going to undo the effects of prolonged exposure to coin-op converts, it's stuff like this.

Animator is £12.99 for the 48K/128K+2 versions on cassette, £14.95 for the +D/Disciple version on cassette allowing transfer to disk, and £19.95 for the +3 version. The address for orders in PO Box 79, Macclesfield, Cheshire SK10 3NP.

Scoop!!!!

Staying with Softcat just a second longer, I couldn't resist passing on some exclusive industry news to you. The firm has just broken the shock horror (excited gasps) news that it is planning to unleash on an expectant market the Spanish language version of *The Animator*! That will certainly please the large number of Spanish-speaking Spectrum owning artists who read *SPEX*, I know.

Order it now at the bargain price of 2982.52 pesetas (at least I think it's a bargain). Incidentally, did you know that the Spanish for "The Ultimate Graphic Development Tool" is in fact "El Ultimo Graphico Desarrollado!!!" Can any linguists tell me why the Spanish get three exclamation marks and we get none? Answers on the back of a credit card to the usual address.

Robin Alway

The programmer and the junkie

What's it like being a full-time freelance programmer trying to break into the world of commercial computer games? If you want to find out, then read on!

Ican Code gets up at twelve noon to start the day. Feeling tired, he goes downstairs and drinks his usual cup of cold tea, which was left behind from last night when he went to sleep at the keyboard. While sipping at his tea, he pulls his socks up, which had slipped down during the night. By this time, Ican stinks of rotten tea, after going through the same routine for the past five weeks. He's finding his game addictive enough to code, but what's it like?

Ican makes his way back upstairs, where he will stay until tomorrow. There's no need for him to turn the computer on, as he's left it on all night anyway. Ican says that if you leave it on all night you can use the power pack as central heating. Ican picks his disk

except that his head is getting lower and he's starting to dribble on the space bar. One more hour passes, and then he's fast asleep, snug in the warmth of the central heating.

Can computers really do this to people? Unfortunately, they can. For example, we know of two people who started out being very friendly, but after a while stopped phoning and calling round. Go round for a social visit to see what's up and you find

Tech time

Question: Marc Smith asked us whether a program eleven lines long on the 64 could convert a block of BASIC into machine code, as it can on the Electron.

Answer: I can only imagine from your letter that the Electron has a built-in compiler within its operating system which compiles a block of BASIC into machine code. Unfortunately, the 64 does not have a compiler built into its operating system, so a program to do this would be large, and only available commercially. You could use Laser BASIC, from Ocean, which has a BASIC compiler for turning BASIC into machine code.

yourself not very welcome. Everything you say gets a short "yes" or "no" answer. And we believe it's catching, too.

How do we know? The second person we knew started off visiting the first one, and ended up exactly the same...

A large percentage of games programmers are not like this because they discipline themselves by renting a small office away from their homes to do their programming. This helps the freelance programmer live a normal life - getting up early, travelling to work and then coming home at night to go out with the lads.

Cheats

Thanks to Sector 64 reader Marc Smith from Hants, we have infinite lives on that smashing shoot-'em-up R-Type. Reset the computer after loading and type:

POKE 12865,173

POKE 12957,173

SYS 32768

There will be no title page music, but you can't have everything.

Sorry Marc, no free sub but at least you get a plug in Sector 64!

What's out

- Dark Fusion • Gremlin
- Hopper Copper • Firebird



In Hopper Copper you control a bouncing policeman on a space balloon bouncing around central London stopping robberies. The game scrolls left and right with a touch of flip screen up and down.

Ian + Mic



• Can you really become a computer junkie - and is it catching?

out of the ashtray and boots it up.

For Ican, the typical computer junkie, life is gonna turn very bad. Ican jumps up and down in despair when his game won't load. Because Ican has a very short fuse, he instantly blows his top, sending everything including his valve TV crashing to the floor.

Ican is also very insecure - along with being short-tempered and smelly. He puts on his slippers and creeps downstairs with pen and paper to write a note to his parents. He's lost verbal contact with his parents by this stage, and his only now friend is Laser Genius. On the paper, he writes "Deer moM and dadd, coud yoo by me a new tv", and creeps up again and gets into bed hoping they won't wake him up to tell him off.

Ican patiently lies in bed pretending to be asleep when his angry parents replace his old TV with a new one. As soon as they go out, Ican gets up and tries again to boot up his disk. This time it works, as the disk has cooled down. Ican is delighted because his game now works and it's also in colour - but that doesn't matter much, as Ican Code's game has only one colour, and that's brown.

Ican sits down and starts coding. He's been sitting there six hours and is still going,

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The problem with viruses: they're boring

There has been a lot of talk about viruses lately. How safe is your PCW?

The good news is that you're almost certainly totally safe (or perhaps 'certainly almost totally safe'). The bad news is that this means you can't go on about viruses at dinner parties. The PCW is pretty safe because:

a) Viruses are written by people with a grudge, unbalanced exhibitionists, and insecure techies trying to prove their computing virility - categories virtually unknown among PCW owners.

b) Viruses are spread mainly through downloading and propagating public domain programs from bulletin boards, giving away pirate copies of software and so on - promiscuity rarely seen in PCW owners

c) Very few PCW owners use hard disks - if they're corrupted by a virus, you've probably lost all your data in the world. If a virus corrupts a floppy, it's a simple matter to use the backup - and floppies can be write-protected easily by flipping the plastic tag, preventing the virus from entering.

No virus has ever appeared on the PCW; they certainly can be written though. PCW Patch has seen such beasts written under laboratory conditions which, after a certain number of copies have been made, flashes up the message

in the printer status line JAPANESE VIRUS STRIKES AGAIN and thereafter prints every letter l on screen and printout as a letter r.

Address maker

Keep your addresses stored on the same disc as your letters, but in a different group, each in a separate file. That way the addresses are displayed on LocoScript's disk manager in alphabetical order, and you can insert them into a letter using 'Insert text' (f1 Loco 2, f2 Loco 1). If you make your TEMPLATE.STD in that group

Three's a crowd

The official Amstrad PCW magazine, imaginatively called Amstrad PCW Magazine, has this month merged with Your Amstrad PCW. It had already absorbed Computing with the Amstrad PCW last year making its official title now Amstrad PCW Magazine incorporating Your Amstrad PCW and Computing with the Amstrad PCW.

The railway station in Anglesey, Llanfair-pwllgwyngyllgogerychwyrndrobwlantysilio-gogoch, is another example of an artificially long name used to describe something not in itself interesting.

have the right layout for an envelope then you can address one just by printing out the appropriate address file. In another file in that group keep a document containing all the names and addresses in your list in alphabetical order. Then you can print out your list any time for your Filofax or office wall.

Any port in a C?

CPORT, which sold cables to connect a Z88 to a PCW, is no longer contactable.

Basil Pigg



Northern Sinclair Show

As I write this, the Northern Sinclair Show has just taken place in Leyland, Lancs.

The ZX Microfairs have always been held in London, and there was obviously a need for something similar, but more accessible, for users at the other end of the country.

The show, organised by David Batty of Sector Software, was very successful, with an attendance of about 750. There will probably be another show in about three months time.

QL - PC file transfer via serial port

If you can use a soldering iron, you don't need any special hardware or software to transfer files from a QL to a PC, just a standard QL serial lead and a DB-25 socket for connection to the PC.

Plug the lead into the SER2 socket on the back of the QL, and identify the underside of the plug. Unplug the lead.

Viewing the plug from the underside with the lead downwards, the pins are numbered 1-6 from the left.

Referring to page 12 of the Concepts section in the User Guide, solder pin 1 (QL) to pin 7 (PC), pin 2 (QL) to pin 3 (PC) and pin 3 (QL) to pin 2 (PC). Connect pins 6, 8 and 20 together (PC).

You will find that making a table with the wire colours listed against the pin numbers will help considerably.

What you have done is construct a lead which connects the data lines between the two machines, with handshaking ignored at the QL end and permanently enabled at the PC end.

To be continued...

Laser printing service

If you would like the output from Quill or a DTP package printed properly and you can't afford your own laser printer, Taylor Made Systems Ltd will take your document on Microdrive cartridge or disk, and print it on its laser printer.

Microdrive cartridges

New Microdrive cartridges are currently selling for nearly £2 each, which appears exorbitant when compared with the cost of disks. However, given that they cost £1.50 when the QL first came out over five years ago, the current price doesn't seem that excessive.

By the way, if you want to re-use write-protected cartridges, just put a small piece of sticky tape over the write-protect tab position. You can then write to them without any problems. A small amount of Araldite could also be used.

Prices range from 30p a page for Quill documents, to £4 a page for DTP output and screen dumps. Taylor Made is on 0932 228721.

John Torofex

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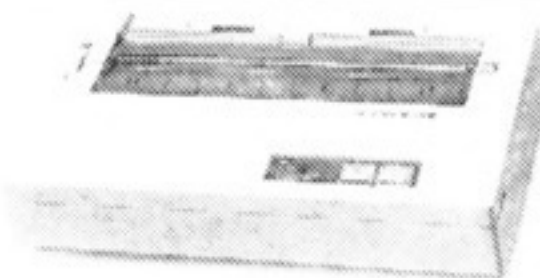
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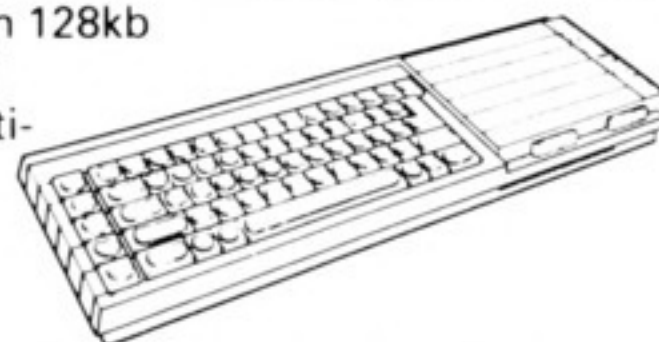
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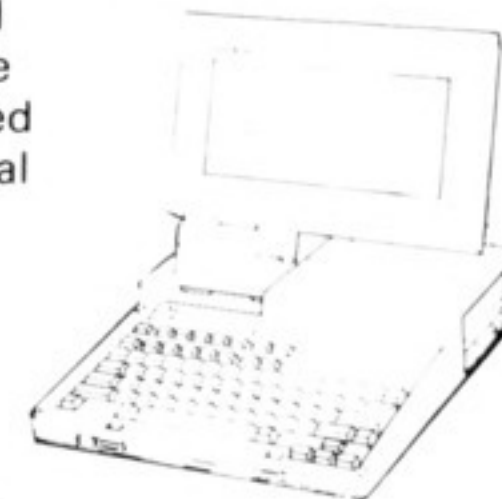
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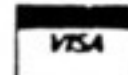
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BEEB BOX

A likely story

Shaggy dog stories abound in the computer world, but I swear that the following one is true.

Ten years ago a young man made a sketch in a notebook of some people dancing to a light & music show, and promptly forgot about it. But in 1986 he rediscovered the book, and so excited was he that he took his BBC micro and wired it directly into his music system. The results encouraged him so much that he took the machine to a party and connected it up to a 100 watt per channel amplifier.

The result – a resounding success. Until the graphics chip blew up half way through the evening. The idea survived, however, and has taken shape as the 'Bit Bopper', a fantastic £20,000 system powered by two Arc 440s for use by professional disc jockeys. Bit Bopper has already been covered in our sister magazine ACE, so get hold of a copy for more information.

Multi-faced Beeb

Two morals arise from this story. First, the 'Dull old Beeb' is still capable of inspiring great things from programmers. And the second is that you should never fool around with electronic devices if you don't know what you are doing.

The BBC micro bristles with so many

interfaces that it's tempting to plug something in just to see if it works. Don't – there is mains electricity in there, and it could kill you.

The good, the bad and the ugly

A quick look at some recent releases confirms the variable quality of BBC software. *Circus Games* I would not recommend to anyone. Its

ROM for improvement

There are some things in life whose time never quite comes. One of those things must be the Master ROM cartridges. The problem with the little beasties stems from the mechanism used to hold the ROMs in place. Made of brittle plastic and a weak spring, it will fall apart after limited use, and the plastic bit invariably gets lost. Trouble then occurs as the contacts bend, and the ROM chip legs contact the motherboard.

A quick and dirty solution involves taking a small screwdriver and pressing the end onto the contacts. This bends them enough so that the legs of the ROM are held firmly, and contact is made.

graphics are coarse and its gameplay boring. *Superman*, on the other hand, has beautiful graphics, with a comic book style scenario and realistic sound. The gameplay is still a little tepid, but still worth a few hours of your time. *Return of the Jedi* is yet another conversion. In the Beeb version there are two colours and the game scrolls diagonally across the screen. I must admit that I found the game hard to play, but this will probably attract hardened games players.

Andrew Brown

MSXTRA

Nintendo/Konami update

A few weeks ago I mentioned the apparently close links between Nintendo and Konami. Also, that Nintendo seemed to be selling MSX software, as De Gale Marketing, a company which usually sells Nintendo products exclusively, was selling MSX versions of the Ocean titles. I should like to point out that these titles can only be purchased from De Gale Marketing, and not through Nintendo, which only deals with its own products. The MSX titles are something De Gale is doing as a sideline to its main Nintendo distribution. Sorry if this has misled anyone.

While I'm on the subject, Konami software club members wondering where their magazine has got to will get their mag eventually.

I have been told that it is ready for distribution but they are waiting for Nintendo to finish printing its accompanying "official" magazine.

Out hype

MSX *Out Run* is now available, and plays very much like the Spectrum version. Briefly, you have to drive your red Ferrari Testarossa through various timed stages, each of which must be completed within a given time or you are out of the race.

The MSX version is extremely difficult, though, mainly because the scrolling isn't all it should be. The other vehicles on the road tend to jerk as they move – making overtaking a hit and miss affair (usually hit).

If you crash the car spins spectacularly, but, alas, the car's red colouring doesn't spin with you!

I must admit I have seen better written car racing simulators on the MSX, some of them four or five years old. One feature I did like, though, was the music. It seems

More games

There seems to be a great deal of interest at the moment in writing games for the MSX. Sublogic's first title for us UK users is Flight Simulator and Torpedo Attack – supplied on ROM cartridge for the MSX 1 and 2 at £19.95. If you have difficulty finding it, D L Chittenden Ltd (0494 784441) should be able to help.

Grandslam continues to release MSX games. PacLand is out now and Thunderbirds will be available shortly. This company is also responsible for the excellent Arcade Classics, and deserves a round of thanks for its continued support.

that now the same sound chip is used on four major formats, the programmers can go to town.

I hope that *WEC le Mans*, due out shortly, is a better conversion than *Out Run*. Otherwise, the pricey *Crazy Cars* (£24.99) by Titus starts looking a reasonable buy – at least it scrolls well and is fast and furious.

Keith Neal

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CPC

French dressing

Good news from Birmingham giant US Gold, which has signed a deal to distribute the games of French label Loricels. As a result, we can expect as many as a dozen new titles over the coming year.

It's always good to hear about a deal to bring new titles into the CPC market. What's especially exciting, though, is that the French have long been among the CPC's biggest fans. It so happened that the 464, and later the 664 and 6128, arrived just at the time when the French were waking up to home computers.

Ever been had, Phil Morley?

Oh dear. You know how chuffed you feel when you spot an April's Fool story, especially if you think it will actually catch one or two of the less perceptive? I had the following letter from Phil Morley last week about apparently sensational happenings at Wacci, the quirky but loveable CPC fanzine: "My mole at Wacci Towers tells me there's trouble at Mill. Wacci is now in the hands of its third owner, and the latest tells us he does not have a CPC but an Amiga! A what? That's right, the confused offspring schizophrenically marketed, overpriced patience-tester foisted upon unsuspecting individuals by Commodore." Phil ends his missive by insisting that this is 'NOT an April Fool.'

Bong! You've been had, Phil me old mate. Sardonic Wacci funster Steve Williams reveals in the genuine latest fulfilled issue that indeed it was all an April Fool's stunt - as, of course, was the "Under New Management" cover.

PS: The story may ultimately owe something to the troubled ACU, where for the first few weeks of its life under the comfortable wing of Focus Publications I'm told there really and truly wasn't a CPC to work on. And that definitely isn't an April Fool's story!

As a result, Loricels has a great deal of experience in producing CPC software. Furthermore, it is an enormously important market, so that if Loricels releases a bad Amstrad version of a new game it virtually kills it stone dead.

First fruit from this new liaison is Skweek, which I've just this week seen in development. Due for release soon, it's been described by US Gold's European Sales Co-ordinator Alexa Czechowski as "a super-modern 99-level version of Pacman," whose role in life is to clean up his planet (very ecologically sound, that) by painting all its tiles pink instead of blue. Naturally, however, there are baddies out to prevent him doing this good work. Skweek's appeal as a "furry orange bundle of fun" is evidently aimed at the younger player, a market traditionally the preserve of budget bandits. It'll be interesting to see if the loveable lump cult does take off: expect a sequel if it does.

One thought occurs: I wonder what is to become of the considerable back-catalogue of Loricels games developed over the past two or three years? There are some good titles out there that we've not had a proper look at in this country. Perhaps if there's enough

interest we could finally get to see it.

Also due out soon from US Gold is *Forgotten Worlds*, the latest in the Capcom series of coin-op conversions. It's the first project of Ark Developments, a new team basking on the beaches of sultry Walsall (shome mishtake shurely). More about *FW* next week.

And finally word has it that the Brummie brigade has firm intentions of releasing an Amstrad version of the sequel to *Heroes of the Lance*. It's still a very long way off - expect it not long before Christmas - but D'n' D'ers will no doubt be chuffed, as I am, at this good news.

Future News Editor in own goal blunder...

...by our football correspondent I. Dontmindifido

The confrontation eagerly awaited all season finally took place last Thursday, when the might of Microprose took on the Future boys.

Microprose Rangers, best known for their flying and combat simulations, but rapidly branching out into other areas (it says here), hosted the five-a-side soccer game. Visitors Future Publishing (responsible for *Express*, *AA* and four other nearly as highly regarded magazines) fielded a team that included Carey and *Express* news editor Colin Campbell.

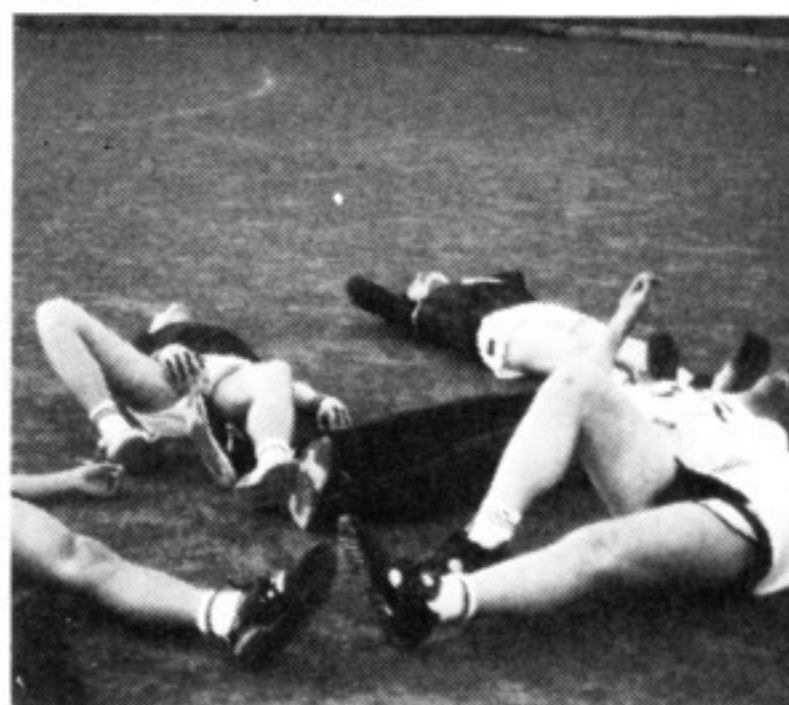
The football was typical Wimbledon v. Luton stuff, with both teams displaying real flashes of mediocrity amidst a general atmosphere of incompetence. Microprose opened the scoring with a blistering miskick that completely fooled the Future custodian of the uprights. But the brave Future boys soon came back from this early setback to take control of the proceedings.

The plucky Bath team, however, could only stand and watch in horror as Microprose's lethal utility player Martin 'Tiger' Moth placed a beautiful through-ball that ricocheted off Colin Campbell for a classic own goal. "Obviously I've learned everything. I know," Moth commented, "from Microprose Soccer, a superb soccer sim available soon from -" gerroff Moth.

A rematch has been offered.



• Posing madly (Carey kneeling in the Amstrad Action teshirt): before...



• ... and after

PS: Future eventually scraped through 13-3. Carey got six.

Steve Carey



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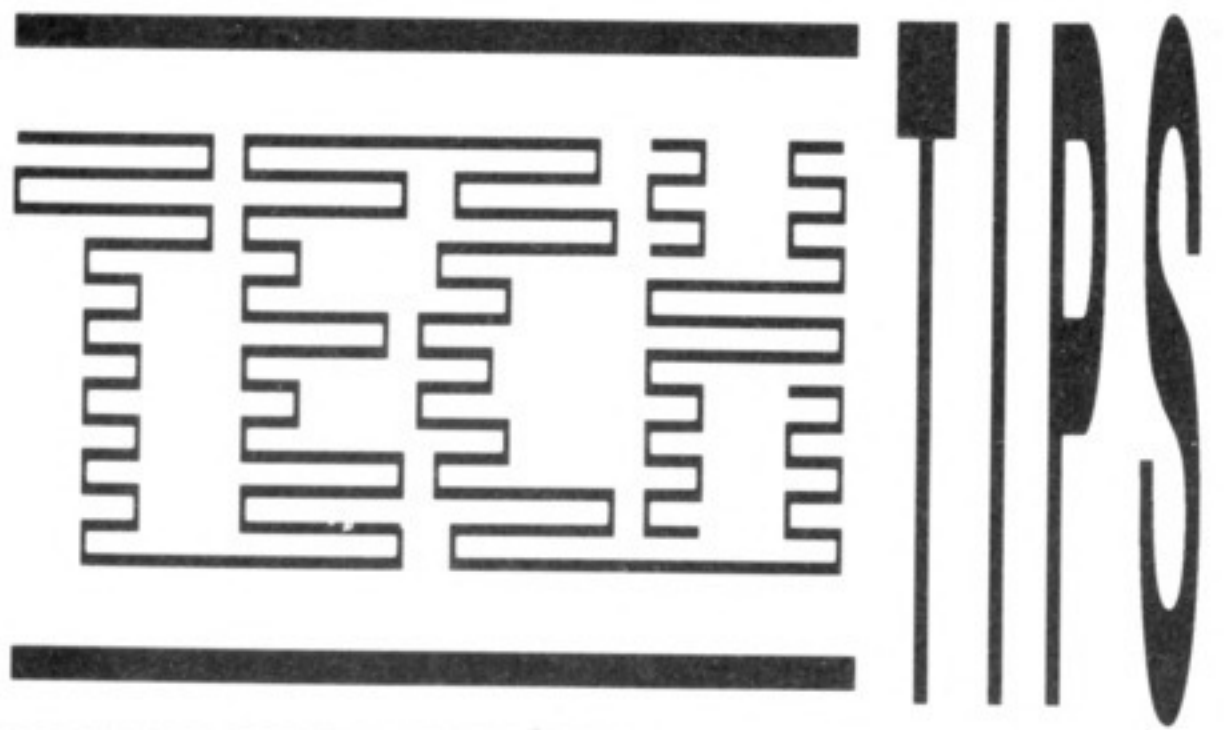
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without damaging the ST or the drives?

If a suitable switch-box is not available then how do I go about constructing one and what plugs, sockets and switches will I need, and roughly how much will it cost?

Michael Smith, Luton

- An unfortunate problem, which has an analogy with the ST's monitor trials and tribulations. I'm afraid there are no switch boxes suitable for your purpose Mike, but you could try building one yourself. Have a rummage through the Maplin catalogue (available from branches of W H Smiths for a pound or two) for the necessary switches and their prices.

HELP!

Drive swapping

I am writing to you in the hope that you can assist me with a small problem I have when using Triangle 5.25" and Cumana 3.5" external drives connected to my Atari 520STFM.

TIP OF THE WEEK

Self-drive printing

Very often you don't need a printer driver at all. Perhaps you're only trying to print a documentation file without printing on the perforations, or to choose a particular style of text. The answer is quite simple. Look up the code for the required operation in the printer manual.

Write a short program to make the codes into a text file on disk or tape. Any time you want to program your printer, just get it to print the file you've created. It won't print anything, but it will be programmed to print the way you want it when you do send it some text.

For example:

```
file%=OPENOUT"ELITE.PRT"
PRINT# file%,CHR$(27);"C";CHR$(66);"\66 lines per page
PRINT# file%,CHR$(27);"N";CHR$(9);"\Don't print 9 of them
PRINT# file%,CHR$(27);"1";CHR$(10);"\Set left margin to 10
PRINT# file%,CHR$(27);"M";"\Elite mode
CLOSE# file%
```

I see no reason why this won't work on any computer that can create a short text file on cassette or disk. On my ST, I double click on ELITE.PRT and click on the print option.

Dave Henniker, Edinburgh

At the moment, whenever I want to change drives, I have to switch the computer off and unplug one drive and plug the other in its place.

I am worried that after a period of time, the connectors in the external drive socket of my ST will wear and cause damage to the drive or – even worse – my ST.

Where can I get hold of a switch-box that I can plug both drives into and then connect to my ST so that I only have to push a switch to change drives? Also, can this be done

Switching between two drives in this way should not harm your ST or the drives, but be warned that neither myself, nor anyone that I know of, has tried to do this.

TIP

ST/TV link

Using the composite video signal output by STFMs (from the monitor socket) it is possible to connect STFMs to the video and audio inputs found on the backs of many TVs. Also with the addition of more

plugs in parallel with the audio line, sound can be output to your hi-fi (although the sound will be in mono).

Connect one phono plug to the composite and ground pins (2 and 13 respectively) of your ST's monitor socket, and another phono plug to the audio out and ground pins (1 and 13 respectively) these then plug into the TV's video and audio inputs.

When using the GEM desktop without a mouse, you may find that the Alternate and Cursor keys move the pointer too rapidly. For more accurate movement, hold down the Alternate and Shift keys while using the cursor keys. This will result in the cursor moving pixel by pixel around the desktop.

Faisal Patel, Batley, West Yorks

HELP!

Database choice

Could you please recommend a database suitable for listing articles and their dates in my collection of National Geographic magazines, possibly with cross-indexing.

I estimate not less than 3,000 entries with about 12 fields. My machine is the Atari ST, and being a beginner, I would like idiot-proof instructions with the database.

BUG OF THE WEEK

There are several bugs in Hyperpaint. Use the jack-knife and cut out the left edge of the screen where the tools are. Result: the program bombs out.

Load a Neochrome picture with no scrolling colours defined. Go to 'set cycling' and click on Test or View. It will either just black out the screen or will crash back to the desktop with mouse buttons not responding.

Try using TinyView, SlideNeo or Deluxe Slideshow to a view a picture created with Hyperpaint which has cycling colours, or possibly one that has static colours. The colours will cycle incorrectly. The cure is to load the picture into Neochrome and save it again.

Dave Henniker, Edinburgh



• Carabus irregularis

This forest-dwelling species occurs at moderately high and high altitudes in central Europe. Sometimes found at sea level hiding in 16-bit software, where higher atmospheric pressures cause it frequently forget what it's doing.

Also, do you know of any realistic poker simulations on disk (not strip poker – I have a dicky ticker (!)).

Dave Lavington, Ealing, London

• SuperBase Personal is just the package for you. It has a user interface very similar to that of a video recorder i.e. icons to click on which take you forwards, backwards or pause your display etc. It is available from your local software shop.

Poker simulation without stimulation, huh? I can find NO commercial poker simulation software that doesn't include the electronic player getting naked – try a rummage through the public domain.

TIP

Faster scoring

If, after entering your name in a high score table, your ST or Amiga starts accessing the drive, it is probably trying to write the high score to disk.

It can rarely do this however, as the disk is usually write protected to stop a potential virus infecting the disk. So after every game you are forced to wait for the computer to access the disk for no reason.

The solution is to write-enable the disk, but make sure the machine is turned off for a few seconds before booting the game.

You may still have to wait, but at least it's for a reason.

Please could you tell me what sound chip the ST uses?

P Worth, Shoreham-by-Sea, West Sussex

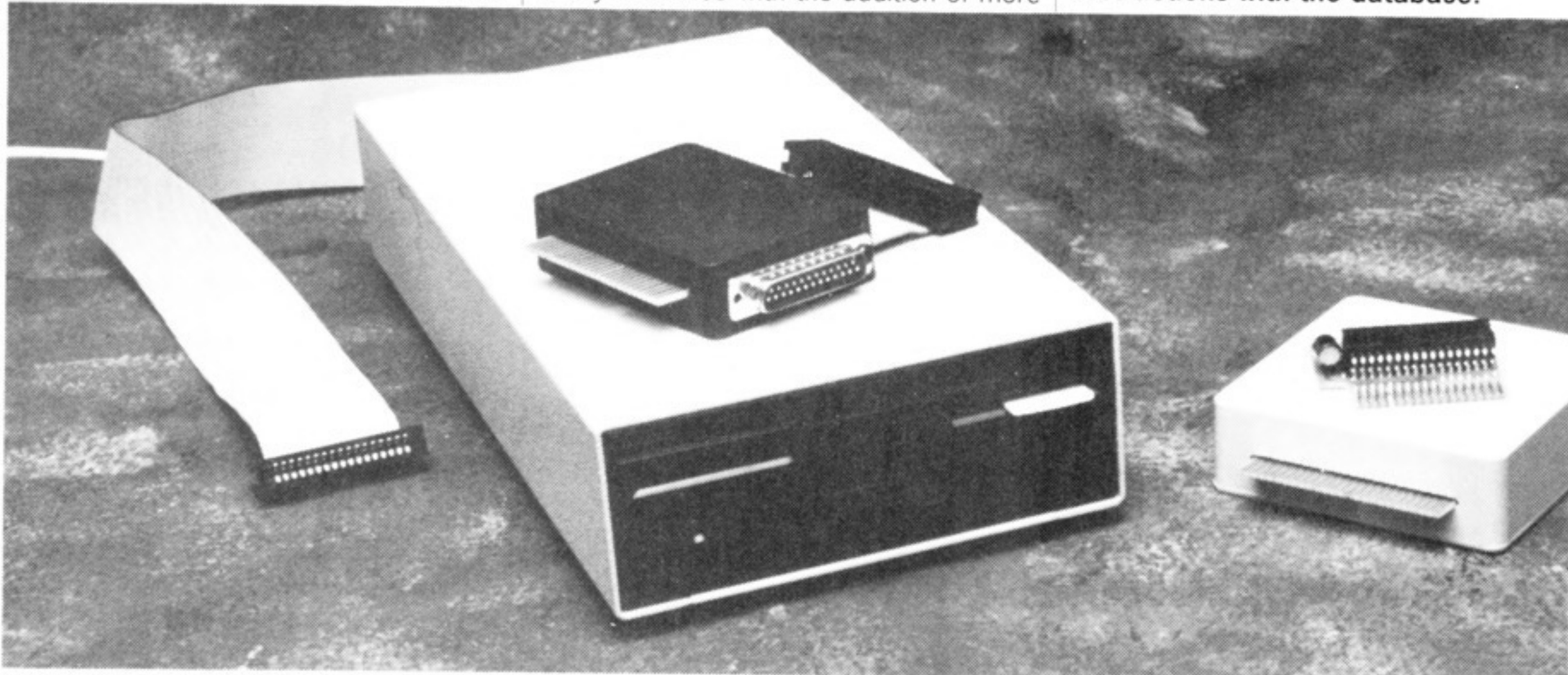
• The ST uses the AY-3-8512 chip to generate sound.

HELP!

Serious Speccy

I am but a humble Spectrum +3 owner who does not want to play games (Why not? you're missing out on a lot of fun – Tech Ed). Do utilities, compilers, books etc. really exist for the +3?

Is there a book detailing Z80 machine code? Can I get an



• Want to swap between two or more external disk drives without unplugging all the time? See Drive swapping

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assembler? Is a comms package available? I would like to break free from the confines of Spectrum BASIC and use other languages via a compiler or even an emulator, but is this possible without spending lots of money on an Amiga or ST?

I write to *Express* because you are one of the few 'serious' (Well, not that serious - Tech Ed) magazines that actually deals with the Spectrum in some sense, without being patronising (Of course, the Spectrum is a wonderful machine with fantastic capabilities - Tech Ed).

Greg Ashman, Brierly Hill, West Mercia

• Serious stuff huh? The Spectrum has been around for a long time and is a very popular machine - consequently, there is a lot of software available and not all of it devoted to killing, collecting, simulation and stimulation.

Compilers? Try Hisoft on 0525 718181. It supplies a range of compilers covering the popular languages such as C and Pascal at a reasonable price. They

will also be able to help with the acquisition of an assembler.

For a suitable comms package, you could do worse than buying the *Mini Office* package from Database (0625 878888) which includes a comms program - amongst others.

Sybex publish a book entitled *Z80 Machine Code* written (I think) by Rodney Zaks. It can be contacted on 0279 26721.

TIP CPC read errors

Here's a tip for Amstrad CPC users which may help with loading back BASIC programs from tape where there is a read error on one of the blocks. Unfortunately,

if the read error is in the first block then nothing can be done.

First, determine which block the read error is in. Then write a program consisting of REM statements like this:

```
10 REM *****
20 REM *****
30 REM *****
etc.
```

For example, if the read error is in block 4, then you must make a program with REMs so that the computer will save it in 4 blocks. No more, nor less. You must save it with the same filename as the program which has a read error. Save it to a separate tape, then rewind this tape until it is directly in front of block 4.

Now begin to load the original program until the end of block 3. Put the tape with the REMs program in the machine and press play. Block 4 should go in OK.

Type LIST and press return or enter. You will find that part of the old program (the one with the read errors) will be there. After that, there will be REMs.

How much of the original program is there will depend on which block the read error was in. You can now delete the REM statements, and re-type the missing parts of the program.

At the end of the listing there will be a large number - almost like a large line number - with a few strange characters after it. Do not attempt to delete this line as its deletion will crash the computer. Also, reset the machine before MERGEing, loading or running another program.

Finally, at the end of the program, you must insert an END or STOP statement.

P Harrison, Leicester



• Crashed programs on your CPC? See CPC read errors

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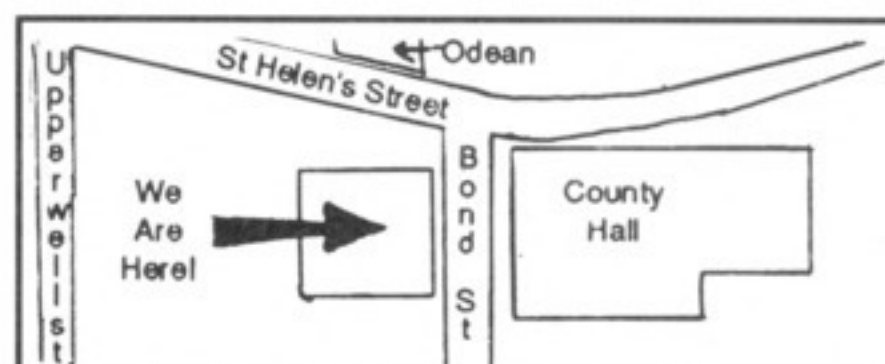
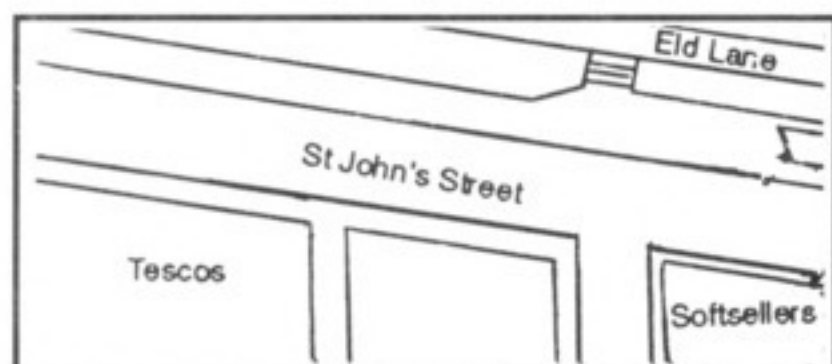
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● **Plenty of ST releases hit our screens this week, from *Kicking Off* with Anco to *Ghostbusting* with Activision.**

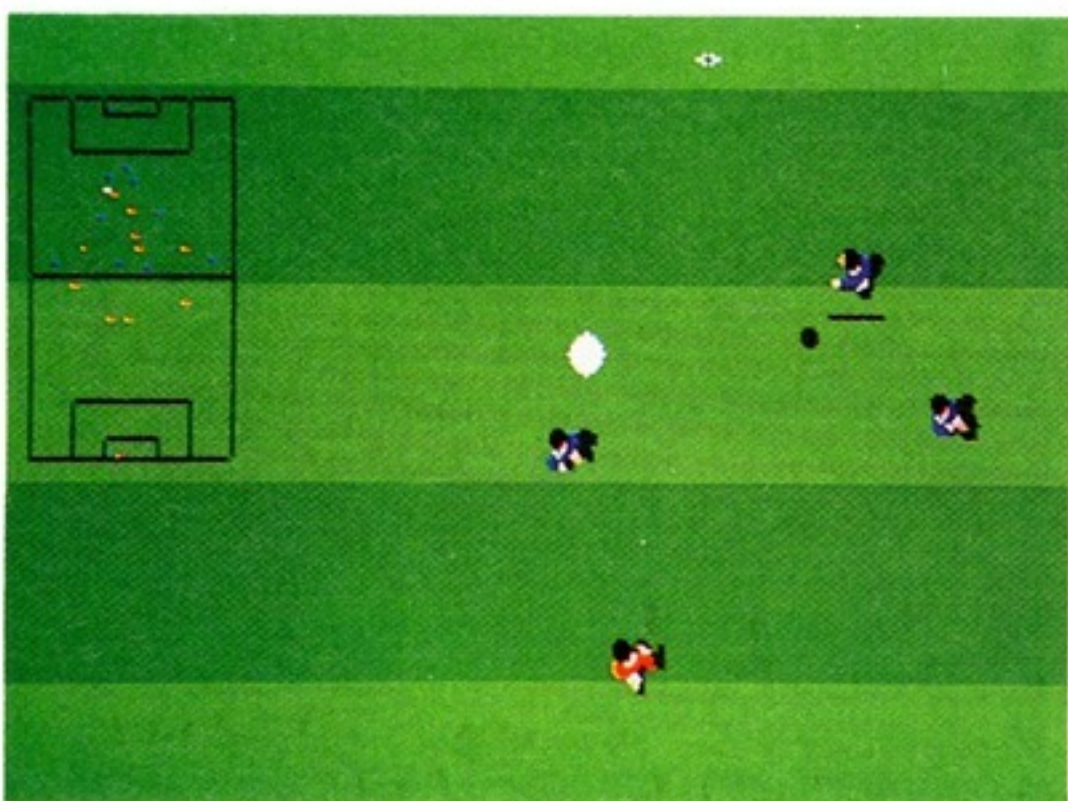
The PC got an extended look-in though, thanks to the terrific *Abrams Battle Tank* – tanks a lot, EA.

Shifting between mediocre and merely average, came *Renegade III*, Steve Davis Snooker and *Police Quest 2*.

KICK OFF

ANCO

ST £19.95dk
Out soon on Amiga, PC, C64



• The graphics don't look much, but it plays fast and well

The ground is thick with footie games for the ST (most of which are appalling). Now comes an overhead view action title from Anco, a software house not generally known for sweeping punters off their feet.

● GAMEPLAY

At your disposal is an eleven-player team competing to beat the best in the world via a league table. There's not much strategy to speak of, bar a somewhat token choice of team formation.

However, the game quickly kicks off at an amphetamine pace with all the sliding tackles, diving headers, filthy fouls and scorching shots you could want on a full-size multi-directional scrolling pitch. It's also got a scanner showing all the players on the field.

What is remarkable about this offering is its absolutely stunning speed. Anco has ditched any poncy attempts to look good on the ST in favour of *Speedball*-type action. It works.

Kick Off possesses that rarest of 16-bit footie qualities. It's not as easy as kicking around with a bunch of five year olds and not as tough as an afternoon in the company of Vinny Jones etc.

● GRAPHICS AND SOUND

Opening visuals are nothing to shout about, and the game contains a barrage of flicker which would be unforgivable in a title lacking gameplay.

The good ol' bouncing ball sound is in evidence, as are crowd noises. Anco has not concentrated too hard here, but this isn't a game for software snobbery.

● OTHER VERSIONS

Amiga and C64 versions will be on the streets by mid May, with a PC version to follow later in the summer.

● EXPRESS VERDICT

Even the most diehard ST-owning footie fanatics have been left with a poor choice over the past couple of years. For all the fancy licence tie ups and empty boasting, nothing has yet impressed. Speed not graphics make this offering worth a look. Playable, enjoyable and, for once, worth forking out for.

★★★★

John McCleary

RENEGADE III

IMAGINE/OCEAN

Spectrum £8.99cs
Also on C64, CPC, ST, Amiga

Feel like kicking some ass through the ages of time? Well *Renegade III – The Final Chapter* allows you to do just that...

● GAMEPLAY

Again taking the role of the hero, Renegade, your mission is to rescue your girlie from the forces of the future. On the way, you'll encounter various forms of scum including medieval knights, ancient Egyptian mummies and prehistoric dinosaurs. However, these problems shouldn't be unsurmountable, considering your prowess at the art of the punch, kick and occasional butt.

● GRAPHICS AND SOUND

Typical martial arts monochrome visuals are slightly uplifted by the strange backdrops and characters – although none of these are that spectacular. Visuals are matched by standard thump and bash sound FX throughout.

● OTHER VERSIONS

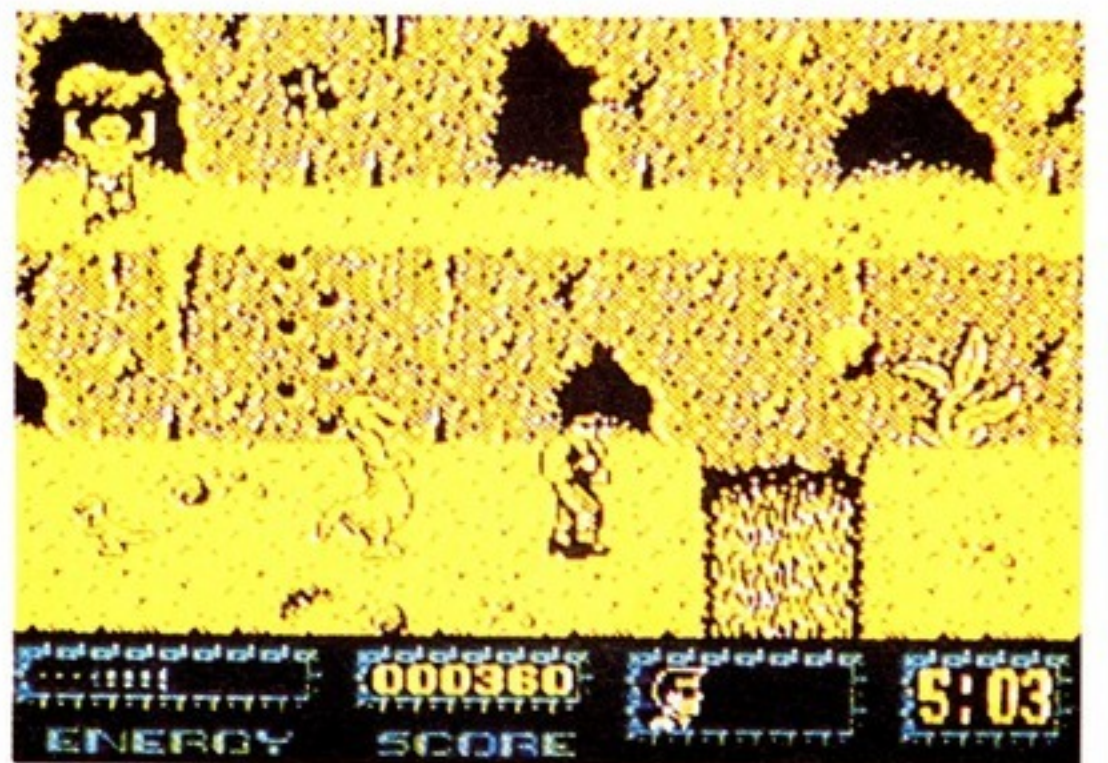
The C64 version replaces the Spectrum's mono visuals with a more colourful, albeit blocky, display. We haven't seen any of the rest yet.

● EXPRESS VERDICT

Renegade III plays a familiar game of kick'em-up proceedings with a new scenario but unoriginal gameplay. Purchase will provide neither surprise nor sorrow, just a satisfactory sequel.

★★★

Rik Haynes



• Prehistoric gameplay to match prehistoric background

ABRAMS BATTLE TANK

ELECTRONIC ARTS

PC £29.99dk

No details on other versions at present

If the thought of motoring down the Autobahn in your new Audi Quattro has you reaching for the gear stick, then what about the chance to head down the Nuremberg Highway in your turbonuttertankbastard – vorsprung durch technik or what?

● GAMEPLAY

In control of the US Army's main battle tank, the M1A1 Abrams, you have a full complement of armaments, an extensive selection of adversaries, and eight different scenarios to contend with – and not one "go-faster stripe" in sight.

Your command of the Abrams is complete, even down to choosing your own mix of ammo at the resupply depot, as you switch from gunner to driver to commander whilst trundling along at a steady 70km/h and looking out for a possible threat behind every hill.

Of course, the commies have to come into it somewhere, and indeed they do, in the guise of the

numerically superior Soviet forces just itching for your tank tracks. Up against the likes of the Soviet BMP-2 Infantry Fighting Vehicle, Mi-24 Hind Assault Helicopter and the hot of the mass-production line FST-1 Main Battle Tank, clever use of your HEAT, Sabot and AX rounds will be not so much advantageous as absolutely essential.

● GRAPHICS AND SOUND

The real-time solid 3D and vector representations are sparse but convincing, and are enhanced by the various tank viewpoints. On-board controls are well designed and easily identifiable, even in the height of the fighting. Sound-effects leave a lot to be desired – fortunately these can be switched off.

● OTHER VERSIONS

We've no details on any other version at present.

● EXPRESS VERDICT

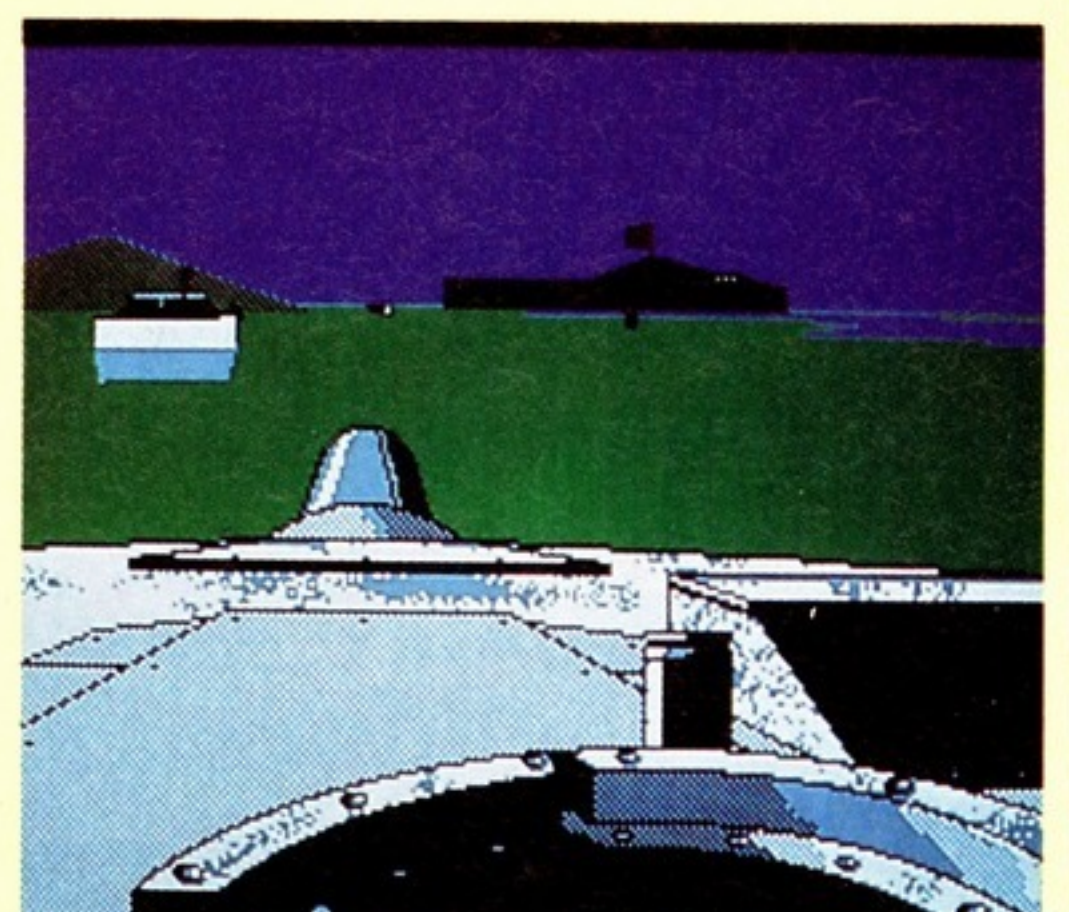
A little unusual in its subject matter, *Abrams* makes a welcome change from the spate of F-16 simulations currently doing the rounds on the PC sim market. The only major criticism we have with the game is the slow update rate of user response, but the remarkably realistic PC display more than makes up for this inadequacy.

★★★★

Rik Haynes



• Switched on to thermal imaging while TADing around



• Directed by Francis Ford Cupola?

REAL GHOSTBUSTERS

ACTIVISION

ST £19.99dk

Also on Spectrum, C64, CPC, Amiga

Have you endured the awful *Ghost Train* Saturday morning TV show, just to watch the excellent *Real Ghostbusters* cartoon series? Well things could be looking up, 'cause Activision's just released the computer game...

● GAMEPLAY

Busting makes you feel good as you bust your way through this one or simultaneous two-player, eight-way scrolling shoot-'em-up, blasting and sucking in all sorts of ghouls, ghosties and things that go bump in the night.

Using a combination of gun and proton beam to take out the opposition, you can gain more help from collectible objects yielding such desirables as extra

beam/shot energy/power, shields or Slimer (a friendly little ghostie who gives you all-round protection).

Once you've passed the end-of-level guardian, you're treated to a truly unimpressive off-loading ghostie sequence. Then it's back to more of the same.

● GRAPHICS AND SOUND

The definition of the sprites is amateurish, and things really become laughable when attempts at animation are made. The backdrops are an improvement, though not to a significant degree.

At every possible moment you're treated to an inane version of Ray Parker, Jr's infamous *Ghostbusters* tune, which is only uplifted by comparison to the awful white-noise sound spot-effects employed.

● OTHER VERSIONS

The most disappointing version we've seen is for the CPC, due to its unacceptable, far too dark, mono display. The Spectrum fares a little better visually, but

suffers from relative slow speed. Amiga *Real Ghostbusters* is visually identical to its ST partner, although it's let down by horrible sampled sound-effects for your gun/proton beam and a slower speed of operation – ST porting at its worse. We haven't seen the C64 version yet.

● EXPRESS VERDICT

The *Real Ghostbusters* is an average affair, with simple audio-visuals but a rather surprisingly high level of difficulty complemented perfectly by frustrating collision detection and annoying waiting times between each game as the game cycles through the same, boring startup sequence.

Who is *Real Ghostbusters* for anyway? The graphics aren't big or cute enough for small kids, and there isn't enough gameplay here to attract the older gamer. In fact, 8-bit owners would be better served by sticking to the original *Ghostbusters* game, which is far superior and now only costs two quid. As for 16-biters, they'd content themselves more by watching the superb cartoon series on TV.

★ ★

Rik Haynes



• Real Ghostbusters: A conversion of the Data East coin-op



• Sucking in a ghostie with yer proton beam



POLICE QUEST 2

SIERRA ON-LINE

ST £19.99dk

Also on PC
Out soon on Amiga

Animated adventures by numbers? Ken and Roberta (Sierra on-line) Williams provide another (yawn) colourful world for you to be abused in.

● GAMEPLAY

You adopt the role of detective Sonny Bonds of the Lytton police department homicide squad, out to arrest the notorious cop-killer Jessie 'the death angel' Bains. He's recently escaped from prison after killing a guard and has your 'number'.

After progressing through lots of target practice, you are unleashed onto an unsuspecting Lytton public, killing and maiming, spilling blood and stitching with lead.

A map of Lytton is provided, as well as a – confidential – homicide officer's guide detailing personal conduct,

initiating investigative procedures, gathering evidence and informing coroners – with heavy emphasis on the coroner informing.

● GRAPHICS AND SOUND

The graphics are very good. High resolution, lots of colour and best of all interactive.

Sound is excellent. A wide variety of tunes and effects giving atmosphere and extending the depth of play. There's even support for a Roland MT-32 and Casio CZ-101 via the MIDI port (if you're playing the ST version).

● OTHER VERSIONS

We haven't seen the PC version yet, while an Amiga version is also on the horizon.

● EXPRESS VERDICT

Good graphics and sound, but you'll feel as if you've played it before. Still, if you're an aficionado of interactive (bloodthirsty) graphical adventure games, then this is for you – do it to them before they do it to you...

★ ★ ★

Officer Mellish

STEVE DAVIS WORLD SNOOKER

CDS

ST £19.99dk

Also on Amiga

After the huge success of its predecessor on the 8-bits, *World Snooker* comes complete with pool and billiards thrown in too. Will the world champion chalk up another success?

● GAMEPLAY

After turning off the music digitised from the BBC TV series, you're presented with a six skill level choice of two types of snooker, pool and billiards.

Starting the action simply consists of lining up the cue,

adjusting the shot strength, positioning spin and clicking to shoot.

This is tough going at first, but, fortunately, there's a practice mode to get you in the right frame of mind (ho ho!) and a trick shot mode when you feel that you can play it with your eyes closed. And there's also take-back and replay option for all those important shots you miss.

● GRAPHICS AND SOUND

The 2D overhead graphics move smoothly enough, and the balls make a pleasant 'thud' as they drop into the pockets, but there's too much of a sense of detachment. Here, we're firm believers in sims that put you in the driving seat rather than ones that have you hanging from the lights above the table.

● OTHER VERSIONS

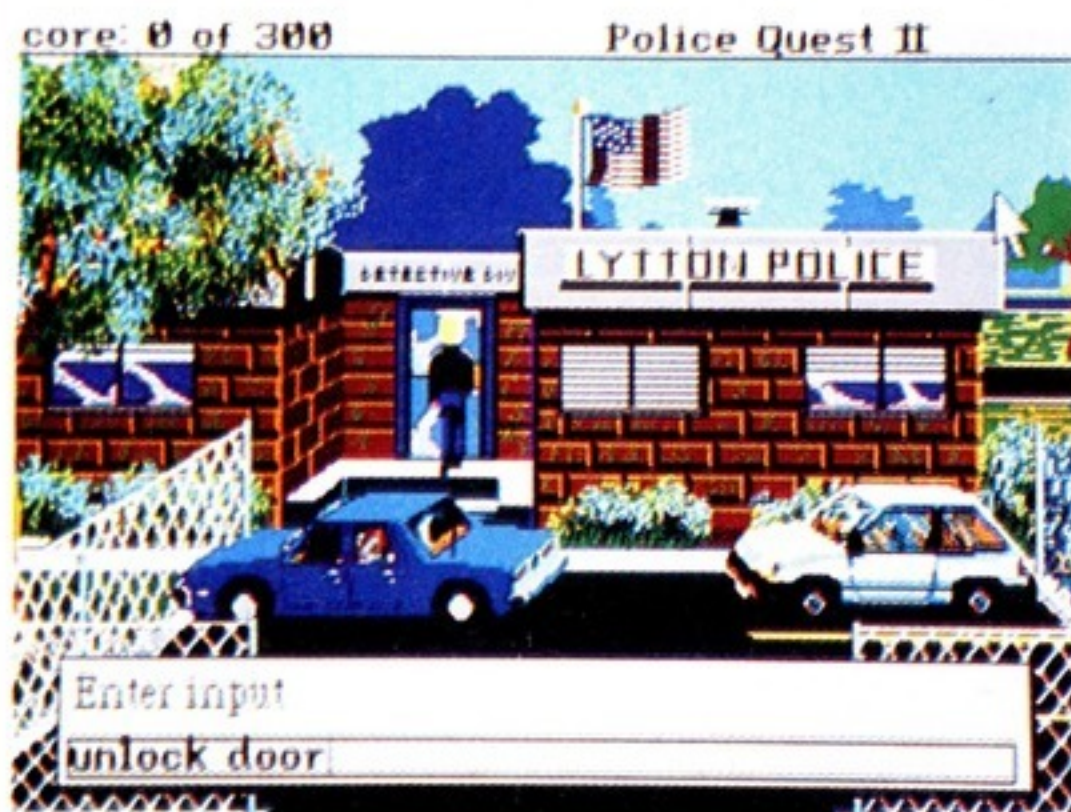
The Amiga outing benefits from stereo sound, but otherwise there's no real difference. CDS reckon there's too much code here for it ever to surface on the 8-bits.

● EXPRESS VERDICT

Although it's nice to see a snooker sim that offers you several types of game, there's no denying *World Snooker* lacks the involvement of *3D Pool*. Perhaps CDS could have improved the graphics at the expense of choice of gameplay. Either way, yer pays yer money...

★ ★ ★

Andy Storer



• A genuine beat-'em-up...? (groan)



• Seven balls left, and you're well and truly, er, snookered

520ST-FM SUPER PACK



The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with 1Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

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All prices correct at the time of going to press. E&OE

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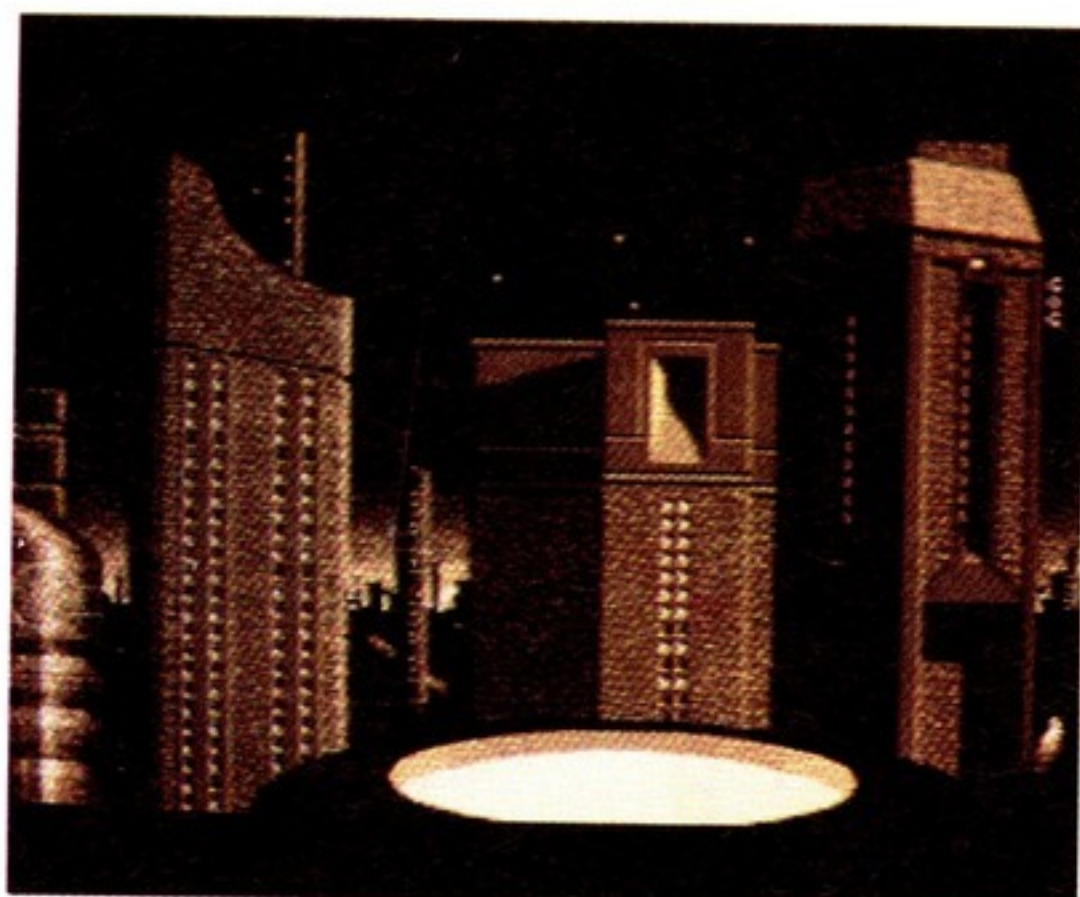
Skate around the subject

Rik Haynes discovers whether skating is "in" this week...

CRIME TOWN DEPTHS

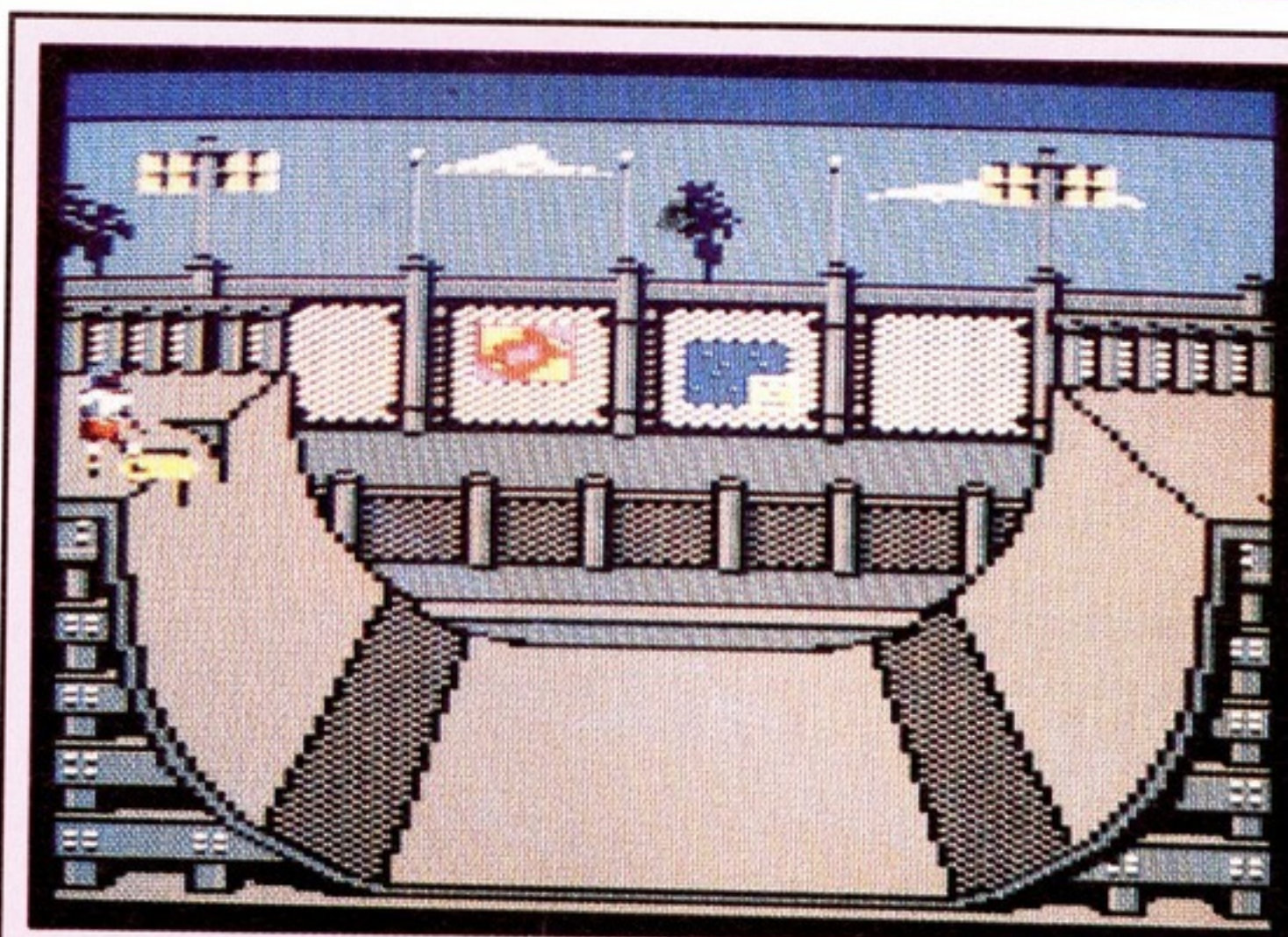
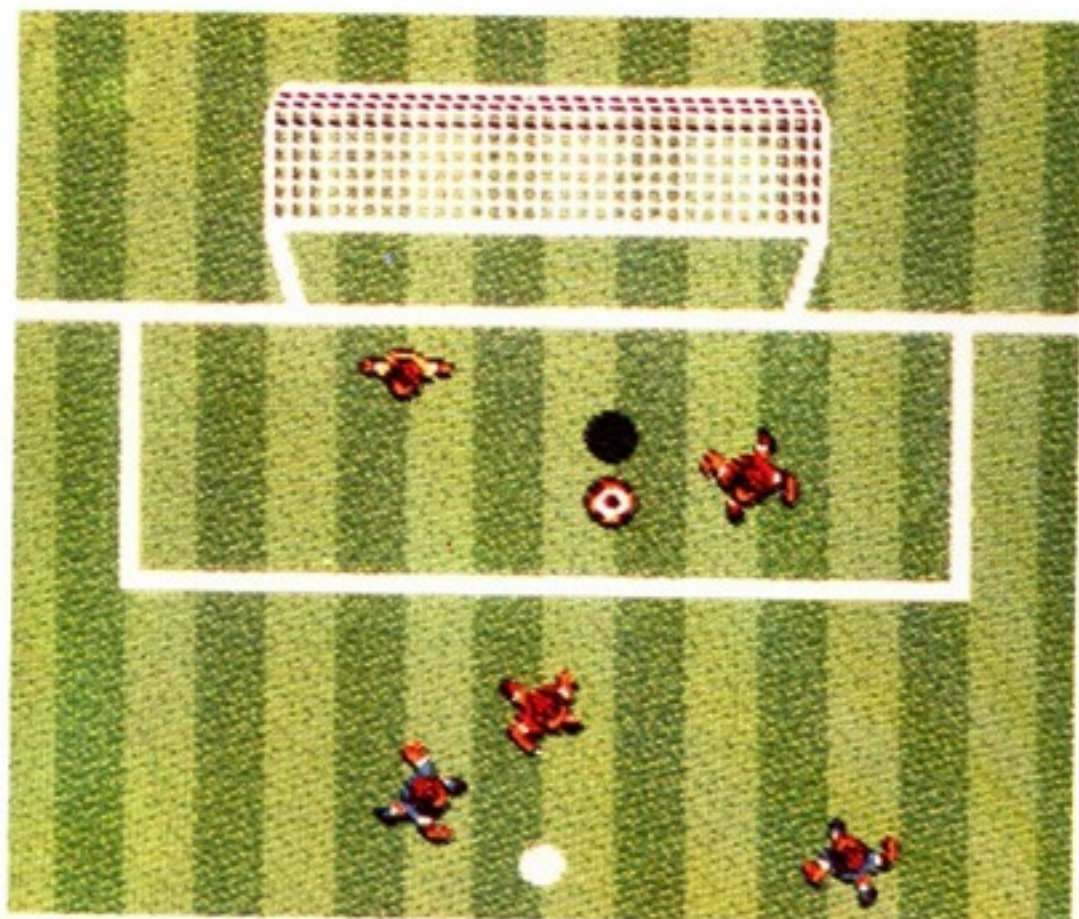
IMAGEWORKS/MIRRORSOFT

This cyber-looking baby places you in the role of a mercenary paid to take out some criminal scum annoying the inhabitants of the Galactic Despot's home planet. Jacking into this piece of ICE entails all sorts of questions, but as they say, this comes with the territory. *Crime Town Depths* is currently under development on ST, Amiga and PC. No release date has yet been set, but we doubt whether this will be the last time you'll read about this game before it's finally launched.



MICROPROSE SOCCER MICROPROSE

With the current craze for footie computer games, Microprose kicks off with its own version shortly on ST and Amiga. Already out on the C64 since last year (Reviewed in *Express* 4), *Microprose Soccer* is an overhead outing including the favourite banana kicks.



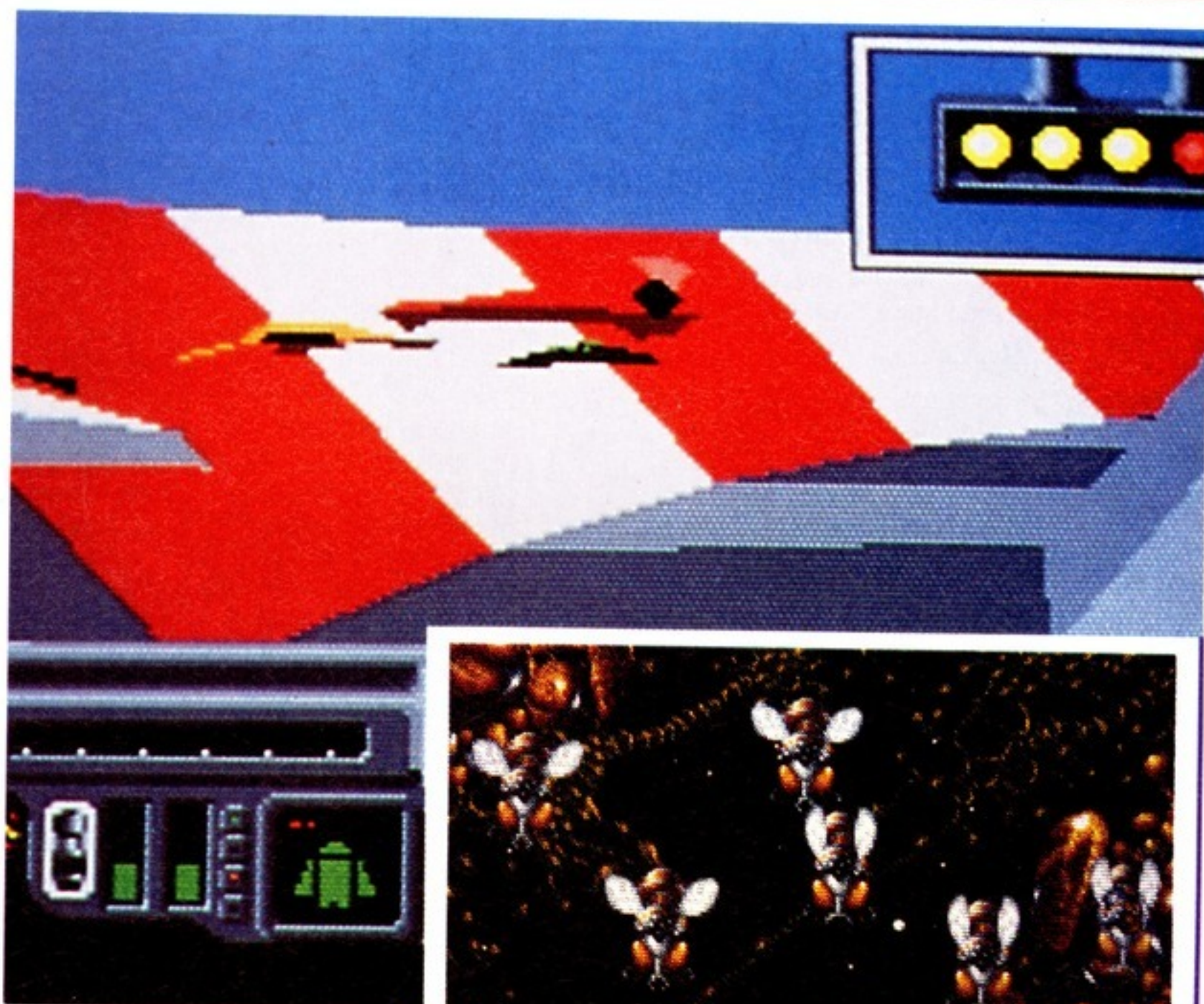
SKATE OR DIE ELECTRONIC ARTS

After a good reception on the C64 and PC(!), *Skate or Die* is finally due to make an appearance on the faithful old CPC – a deck well renowned for its street cred, hip 'n' trendy, radical owners (send all written protests to *Express Hate Mail*, address as normal). Any CPC owners still reading this may like to know the game includes freestyle ramping, downhill racing, downhill jamming, pool jousting and high jumping as you strive to be the coolest dude on the block.

POWERDROME

ELECTRONIC ARTS

Out on the Amiga next month, *Powerdrome* is a novel solid 3D racing sim, with you in control of a futuristic jet competing against four other pilots in an attempt to win the sought-after Cyberneufe Trophy. Already released on the ST, *Powerdrome* on the Amiga has been rewritten to take full advantage of the machines superior audio-visual capabilities. As with EA's superlative *Populous*, *Powerdrome* can be played head-to-head with a friend with another Amiga or ST via a datalink.



HYPERFORCE

ADDICTIVEGAMES/PRISM

Comprising 30 levels of puzzle infested action, *Hyperforce* will come as a Special Limited Edition with a shoot'em-up called *Artificial Dreams*. Out soon on ST and Amiga.



XENON II - MEGABLAST

IMAGEWORKS/MIRRORSOFT

After the hugely successful *Xenon*, it was only a matter of time before the Bitmap Brothers programming team would come up with a sequel. Offering the same vertically-scrolling shoot'em-up action as its predecessor, *Xenon II* also includes improvements such as three level full-screen parallax scrolling, bas relief land and seascape background graphics, and a *Megablast* (13th Precinct Hip Hop) Mix soundtrack by Bomb The Bass (see *Express* 22 for more details). Will this version of *Xenon* make it onto a Saturday morning TV show? The world waits with baited breath. Out some time this summer on ST, Amiga and PC.

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Made to measure

Pithy prose from the pen of William Poel

"Now see here, my good man, I wish to purchase one of your fine settees and two matching armchairs..."

"Certainly sir. You'll need two hundred feet of one by one, five yards of Dralon, fourteen castors, a box of nails and this set of tools..."

An unlikely scenario (even at MFI). But one that is repeated daily in the computer outlets of the land. The one firm (Omnis) which tried to flog three-piece suites to people who needed them didn't get very far with its application-specific databases. It seems that dealers preferred to stock the raw materials than to have to bedeck their showrooms with prefabricated applications.

The problem seems to be the inevitability that if a dealer is brave enough to proffer his wares in the form of "package solutions", then the customer will nearly always ask for a demonstration – and the scope for deep embroilment is then limitless, and the margin is marginal.

As long as the customers still seem happy to buy their applications in DIY kits, why spoil a good thing? If the punter who pays £400 odd for dBase cocks up his application, he may next be ripe for another harvesting at his friendly local dealer for the training fees, or perhaps the dealer's own approach to custom-made solutions.

Chips in the Microwave

Most people wouldn't dream of buying their microwave cooker as a box, a magnetron and a single chip micro kit – yet they persist in buying their business computing in this fashion.

So why do PC purchasers still offer themselves up like lambs for

this slaughter? Do you suspect that it is because they buy these lengths of rough cut wood and boxes of nails because they don't know a three-piece suite when they see one?

Certainly, some of the trade publications for industries like law and farming are full of turnkey solutions that to us know-alls who read specialist computer publications like Express seem like money for old rope. I suspect that the old rope in question is mainly the support and maintenance of the system – a factor which is hard to overestimate.

It is true that some dealers operate in the mode of bespoke furniture makers, but I guess the majority are still builders' merchants. If ever there was a sales business that could benefit from a trade organisation to put across a coherent message, I guess this is it.

Sofa so good

Like the punter who gets home with his wood and nails, many customers with their "generic" software bang in a few bytes, hit their thumbs once or twice and get fed up. After a while they might decide to take a few carpentry lessons – but did they set out with the intention of sitting on the sofa, or becoming proficient workers?

Maybe those who pay £20,000 for a turnkey solicitors' system for what we street-wise computerists regard as "money for old rope" are in fact rich and successful lawyers, who don't give a bean for what goes on behind the key. So why should we be so keen to encourage them to join us in the ranks of the impoverished computerists who are still trying to get the bugs out of that £50 dBase program we wrote four years ago.

NEXT WEEK

Memory upgrades

Do you suffer from a bad memory? Beef up your machine with the Express guide to the best in memory expansion

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Shoot from the Lip... the week's most quotable sayings

"Hackers belong to a nerd culture. Like train spotting."

Software newspaper Datalink's Jim Smith.

"Before I met John I thought all programmers were tosspots. I wondered if any of them got up before midday, did half of what they claimed, and finished even remotely on time."

Goliath boss Doug Matthews on his new

partner John Jones-Steele to trade paper CTW.

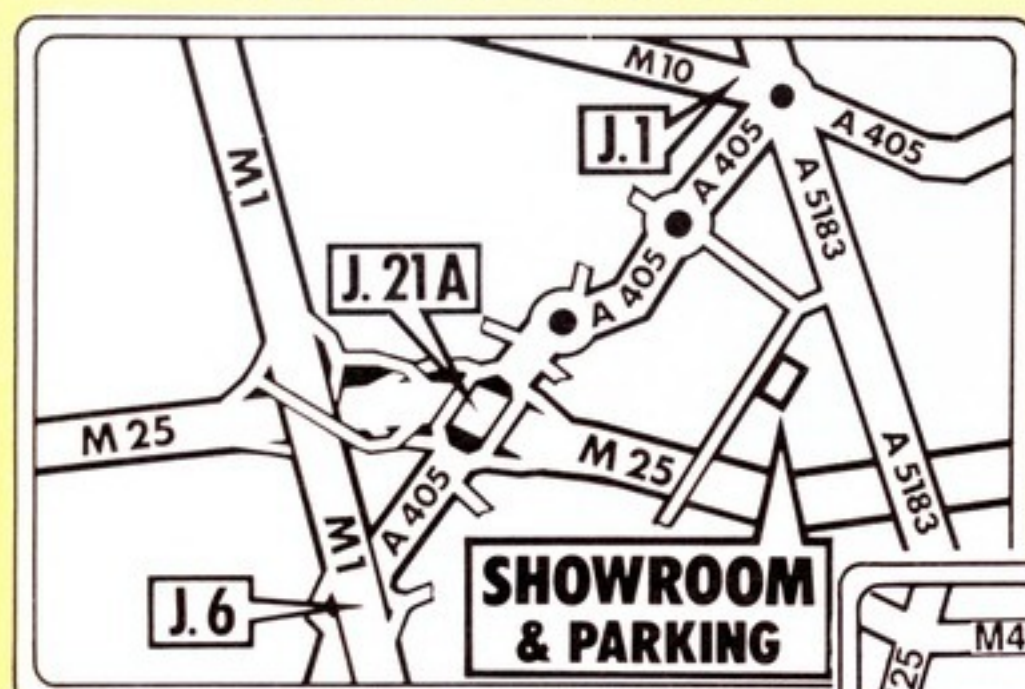
"I'm sure Elite, if Frank Bruno had won, would have resurrected that licence somewhere along the line."

Activision UK boss Rod Cousens on games licensing. He added:

"People will try and licence anything that walks."

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